OVER 300 PRODUCT REVIEWS!

\$3.95 March 1988 \$4.95 Canada



When Speed Counts

MacUser Labs Reports On Accelerator Boards



APPLE'S NEW SYSTEM SOFTWARE

Is It Worth the Price?

ROLL OVER, WALT DISNEY VideoWorks II Is Here

A GAME OF TRUST & BETRAYAL Need We Say More?

Word 3.01 Fills the Promise



"Who cares how it works? Let's get in and drive"

Most people's attitude toward software programs is like their attitude toward cars. They don't care how they work, they just want to get in and drive. We understand and agree with that attitude, which is why Reflex Plus is written and produced to get you off to such a fast start.

It is also why Reflex Plus doesn't confront you with bizarre routines and syntax or send you off into the black holes of programming languages when all you're trying to do is organize your data or instantly see the connection between various pieces of your data.

Unlike the others, Reflex Plus never makes you do things the hard way. Everything is possible with simple

nonprocedural language and spreadsheet-style formulas.

Some of the power pluses of Reflex Plus

- Visual database design—a "natural" for your Macintosh
- WYSIWYG ("What-you-see-iswhat-you-get")
- Truly relational database manager
- Auto-Save—which means you'll never lose data again
- Paste Choice command that saves you enormous amounts of time
- · Context-sensitive online Help



- Formula-creating functions that let you instantly search, sort, calculate, qualify and more
- Multiple entry forms for the same database
- Entry for more than one database in a single entry form
- Shows one record at a time or all records at once
 - Calculated fields in entry forms
 Display-only fields
 - Default, but editable fields
- GROUPBY function
- Record sizes can be 1000, 2000, or 4000 characters
- Compatible with all Macintoshes with at least 512K RAM including Macintosh SE and II
- · New rewritten documentation

How to succeed in business for only \$279

Reflex Plus is only \$279 plus shipping and handling. You can pay less and get less or pay more and still get less. You need Reflex Plus. It's the super-power of truly relational databases. It's easy to use—and it's easy to order.

60-Day Money-back Guarantee*

For the dealer nearest you or to order, call (800) 543-7543



Reflex Plus lets you make all the right connections

Just as you know there's a connection and relationship between your fingers and your hand or your eyes and your brain, there are connections and relationships between all the pieces of data you collect and need to analyze. With Reflex® Plus, creating the link between, say, a lawyer's or doctor's time and the bill is as easy as drawing a line on the screen.

With Reflex Plus, the left hand always knows what the right hand is doing, and it shows you how numbers and events connect, interconnect, and influence each other.

Reflex Plus can show you more about relationships than Dr. Ruth

The simple, but sometimes complex relationships between different pieces of data within your database are all important ones.



Creating more sophisticated links, or links with more criteria is equally simple. It just means drawing more lines. Reflex Plus makes it easy, for example, to manage:

- newsletter publishing
- · accounts payable/ receivable
- job costing
- systems
- analysis

Because Reflex Plus is truly relational, it can "relate" and cross-reference your data.

Many "database managers" are not much more than "list managers" simple lists that can't connect and cross connect one item with another. So while they can "list," they can't really "manage."

The inability to relate one event to another means that things could be going right or wrong within your database but unless it's truly relational like Reflex Plus, it can't show you what they are.

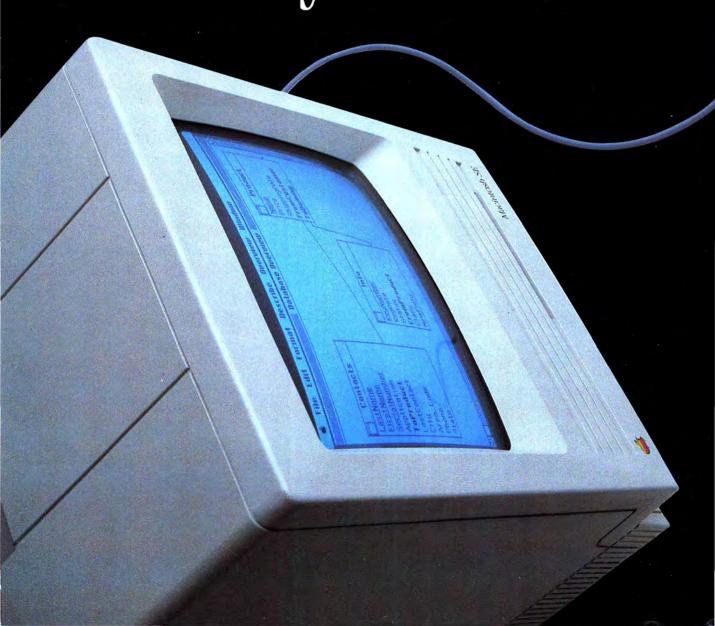
What your data tells you depends on how vou look at it

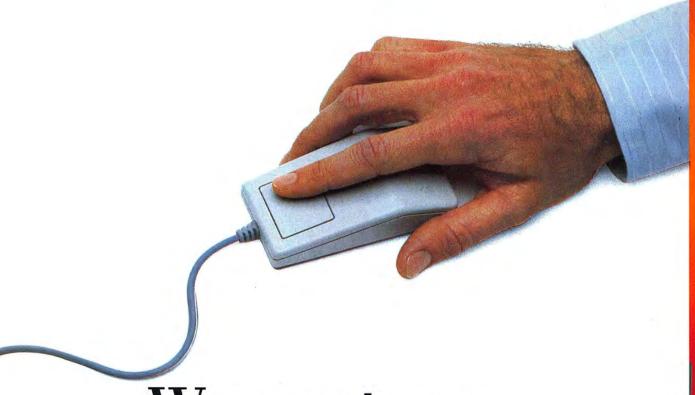
Your Macintosh is very much into the graphic arts and so is Reflex Plus. Designed to make the most of your Macintosh's graphic powers, Reflex Plus offers you a unique variety of ways to take both an analytical and artistic look at your data.

It's easy to customize your output with Reflex Plus. Whatever you're working on—letters, invoices, quotations or data entry screens—Reflex Plus lets you add graphics, position them wherever you want, change sizes, change fonts and produce truly professional results. Reflex Plus lets you make the most of your Macintosh.



It isn't hard to imagine why we made Reflex Plus so powerful, yet easy-to-use.





We want you to use it.

he hard news about powerful relational database managers is that Reflex® Plus is the easiest to use. Which doesn't mean that it's been scaled-down to some lowest-common-denominator program. The opposite happened. Reflex Plus was scaled-up to do more sophisticated tasks and to do them in an easier way than either its forerunner Reflex for the Macintosh or any other relational database manager.



MacUser

MACUSER LABS

Pedal to the Metal

by Chip Carman and Jim White In the first of our continuing reports, MacUser Labs looks at accelerator boards for both the SE and the Plus. **108**

POWER COMPUTING

All Systems Go

by Robert R. Wiggins
Apple's new version of the System looks just like real software, complete with documentation. We take a look at what this means.

126

HyperBusiness

by Robert R. Wiggins
Two new commercial stacks, Focal
Point and Business Class, take an
executive stance. **166**





WORD PROCESSING

Reworded

by Daniel J. Rosenbaum
The answer to the burning question: Is Word 3.01 what Word 3.0 should have been? 140

GRAPHICS

Roll Over, Walt Disney

by Sharon Zardetto Aker

Video Works II — the sequel — gets
your Mac up and running (and
jumping and pointing and...). **150**

ENTERTAINMENT

Move Over, Machiavelli

by Ezra Shapiro

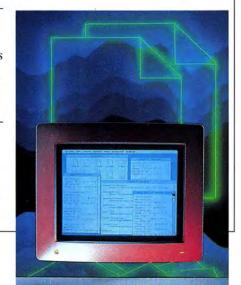
Chris Crawford's newest offering, Trust and Betrayal, requires devious mental gymnastics. How's your aura? **174**

RESOURCES

The QUEDessential Editor

by Linda Custer

If you have some code that needs editing or there's a huge text file to deal with, use *QUED/M* — now with macros. **186**



Cover Photo by Steven Hunt

Screening Room

by Salvatore Parascandolo
Stepping Out makes large-screen
convenience possible at software
prices. **194**

See Mac Read

by Jon Zilber

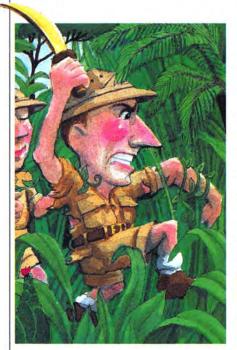
With Personal Writer you can go from the (hand)written word to onscreen text — most of the time.

206

HYPERCARD

A Valentine's Day Tale

by Michael Bywater
An editor of Punch takes an idiosyncratic look at the Macworld Expo. **162**



Flash Cards

by Laura Johnson and Victoria Juarez

A quick and dirty look at some of the ever-growing number of HyperCard stacks available. **220**

COLUMNS

Editorial Privilege

by Steven Bobker Small is Beautiful. 13

Editor At Large

by Neil L. Shapiro Big, Bad Apple. 17

Pinstripe Mac

by Robert R. Wiggins
On the Bleeding Edge. **53**

Two Bits' Worth

by Michael D. Wesley
A Candide Interview. **61**

The Macintosh Boundary

by Doug Clapp
The Most Beautiful Stacks. **67**

The Help Folder

by Dan Cochran
Answers From the Mac Team 73

The Devil's Advocate

by John C. Dvorak
Garbage of the Rich (?) and Famous
(?), **280**

DEPARTMENTS

Letters

from the Mac community Readers have their say. 25



New On The Menu

edited by Louise Kohl
Latest updates, Rumor Manager
and more. **36**

Quick Clicks

Short and sweet (or not-so-sweet) reviews of new products. **84**

Tip Sheet

Compiled by H. D. Plant
Mac hints, tips and shortcuts. **101**

MiniFinders

Hundreds of capsule reviews to help you pick and choose. 234

Coming Soon 10

Advertisers Index 262





The ultimate hard disk management system.

It's one of the most amazing breakthroughs for the Mac since the Mac. It's simple, ingenious, and totally visual.

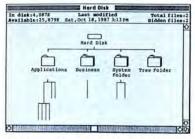
Announcing MacTREE.

A program which provides a unique "tree" display of your hard disk files and lets you instantly locate every folder or file.

And can sort your files any way you like. By name, size, kind, and date. Then copy, rename, erase, or move them—fast!!

MacTREE. The hard disk organizer that's easy to use.

And it's available. Now.



MacTREE works just like Apple's Finder, but looks a whole lot better—and is much easier to use. It displays files and folders in a graphic "tree," showing exactly where your files are stored.

Macintosh and Finder are registered trademarks of Apple Computer, Inc. MacTREE is a trademark of Software Research Technologies, Inc.



Toll Free 800/824-5537 In California 714/472-0474

Please circle 211 on reader service card.



PUBLISHER Martin Mazner Associate Publisher Jeffrey Miller

EDITORIAL

Editor-in-Chief Steven Bobker **Executive Editor** Louise Kohl Managing Editor Nancy Groth Technical Director Chip Carman Features Editor Jon Zilber Associate Editor Ben Templin Assistant Editor Laura Johnson Assistant Editor Russell Ito Reader Support Victoria Juarez Contributing Editors Sharon Zardetto Aker, Henry Bortman, Doug Clapp, Dan Cochran, Adam Green, Tracie Forman Hines, Paul Lehrman, Ian McKinnell, Carlos Domingo Martinez, Ezra Shapiro, Michael D. Wesley Contributing Business Editor Robert R. Wiggins Contributing Anti-Editor John C. Dvorak

Editor-at-Large Neil L. Shapiro

DESIGN & PRODUCTION

Art Director Lisa Orsini
Assistant Art Director Diane Dempsey
Art Assistant Peter Gould
Production Director Carlos Lugo
Production Manager Amy Lesovoy
Production Associate Jeri Harrison

CIRCULATION SERVICES Circulation Managers

Charles Mast, Melinda Kendall
Customer Service Kimberly Armstrong

Group Vice President William Lohse

Marketing Manager Keith Newman

Assistant Marketing Manager Alane M. Bowling

MacUser (ISSN 0884-0997) is published monthly by Ziff-Davis Publishing Co., a division of Ziff Communications Co., One Park Ave., New York, NY 10016. Editorial Offices: 110 Marsh Drive, Suite 250, Foster City, CA 94404. Telephone: (415) 378-5600. Midwest Offices: 1150 Wilmette Avenue, Wilmette, IL 60091. Telephone: (312) 251-2541. U.S. subscription rates are \$27 for 12 issues, \$45 for 24 issues and \$62 for 36 issues. For Canada and Mexico, subscription rates in U.S. funds are \$39 for 12 issues, \$69 for 24 issues and \$98 for 36 issues. For other countries add \$50 per year to the U.S. rates for airmail. Add \$12 per year to the U.S. rates for surface mail. Single copy price is \$3.95 (Canada \$4.95). POSTMASTER: Send address changes to MacUser, P.O. Box 56986, Boulder, CO 80321-6986. Entire contents Copyright® 1987 Ziff Communications Company. All rights reserved; reproduction in whole or in part without permission is prohibited. PERMISSIONS: Material in this publication may not be reproduced in any form without permission. Requests for permission should be directed to the Reprints Manager, Jennifer Locke, Ziff-Davis Publishing Company, One Park Ave., New York, NY 10016. For back issues (subject to availability), send \$6 per issue, Canada, foreign \$7 per issue to: Ziff-Davis, One Park Avenue, 4th floor, New York, New York 10016, Attn: K. Armstrong. Second class postage paid at New York, NY 10016 and at additional mailing offices.

A BPA

MacUser is an independent journal, not affiliated in any way with Apple Computer, Inc. Printed in the USA.

PACKED with **PROGRAMS**

homes, schools sold to offices.

DISCOVER UPTIME. Build an exciting library of programs for less than one dollar each. You deserve value. At UPTIME value is yours. Each month over 30,000 people just like you enjoy UPTIME. Your disk arrives with eight programs and more every month...

Enjoy eight programs including two new desk accessories on each monthly disk. Make your life easier. Get more from your Macintosh. Organize and be more productive with home and business management programs. Learn with educational programs. Enjoy all the games and adventures. Using your Macintosh is now a snap with tutorials and desk acIt's easy, inexpensive and fun. It's UPTIME! Too good to be true? There's even more! Each monthly disk has reviews of the latest software, hardware and peripherals. Save time and money. Learn the strengths and weaknesses of each item we evaluate. Shop "on the disk" in our Micro Discount Mall.

Subscribe now and save. You won't believe the low price! Satisfaction is guaranteed - or your money back. You'll be amazed at just how much comes on every UPTIME disk. Make the very next one yours. Fill out the coupon. For immediate service call toll-free:

> 1-800-437-0033 anytime, day or night. Please circle 153 on reader service card.

cessories.

A Typical Disk Includes:

Password Protect · Font Edit · Charlotte Font Version Reader · MacLanding · Blackjack Modem Meter DA · Newsletter Clips

Look for us in Waldenbooks, B. Dalton and other book and computer stores in your area.

I'm a Macinosh enthusiast who wants more. Please start my subscription to UPTIME immediately.

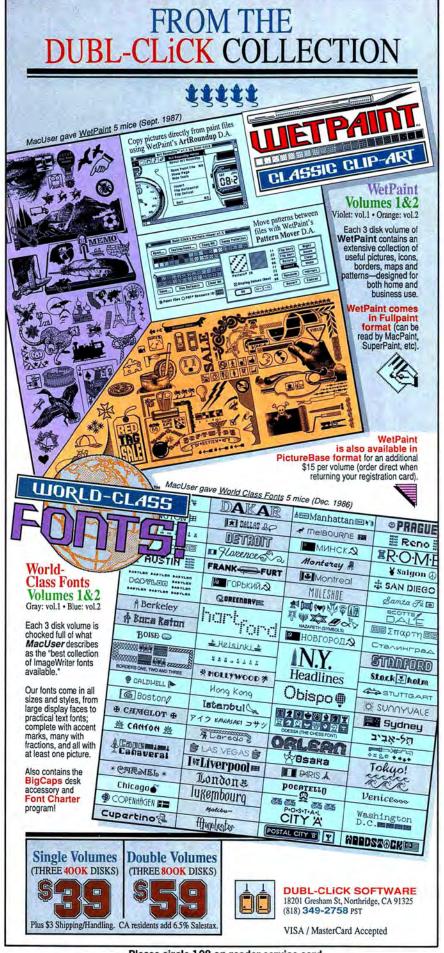
Jost Issues

Lean Issues 3 \$36 Canada and APO)

(Add \$2 per issue in foreign countries, except Canada and APO)

UPTIME PO BOX 299 F. I. ME. F. V. MOX 2340 NewPort, RI 02840 NewPort, 849,4925

When enclosed. The Exp. Date. Payment enclosed. City Type of Computer e



MacUser

ADVERTISING

National Advertising Director Hjordis Fammestad 110 Marsh Drive, Suite 250 Foster City, CA 94404 415-378-5603 Western Advertising Director Noreen St. Pierre 415-378-5624 Northwest Advertising Managers Gary Carter 415-378-5623 Leslie Hutchison 415-378-5605 Southwest Advertising Manager Roy J. Kops 415-378-5625 Eastern Advertising Director Suzanne Zellner One Park Avenue New York, NY 10016 212-503-5210 Mid-Atlantic/Southeast Advertising Manager Russell Brody 212-503-5416 Midwest Advertising Manager Kevin Sullivan 1150 Wilmette Avenue Wilmette, IL 60091 312-251-2541 Midwest Account Executive Greg Morin 312-251-2541 Senior Advertising Coordinator Kari Miller 415-378-5604

Founding Publisher Felix Dennis

Classified Advertising Director Kathryn Cumberlander 212-503-5115

ZIFF-DAVIS PUBLISHING COMPANY

National Sales Coordinator Joyce Schroeder 415-378-5606

President Kenneth H. Koppel Group Vice Presidents William Lohse, J. Scott Briggs

Senior Vice President, Marketing Paul H. Chook

Vice President, Operations Baird Davis Vice President, Controller John Vlachos Vice President, Creative Services

Herbert Stern Vice President, Research

Marian O. White

Vice President, Circulation Alicia Marie Ivans

Vice President, Circulation Services James Ramaley

Vice President, Marketing Services Ann Pollak Adelman

Vice President, Development

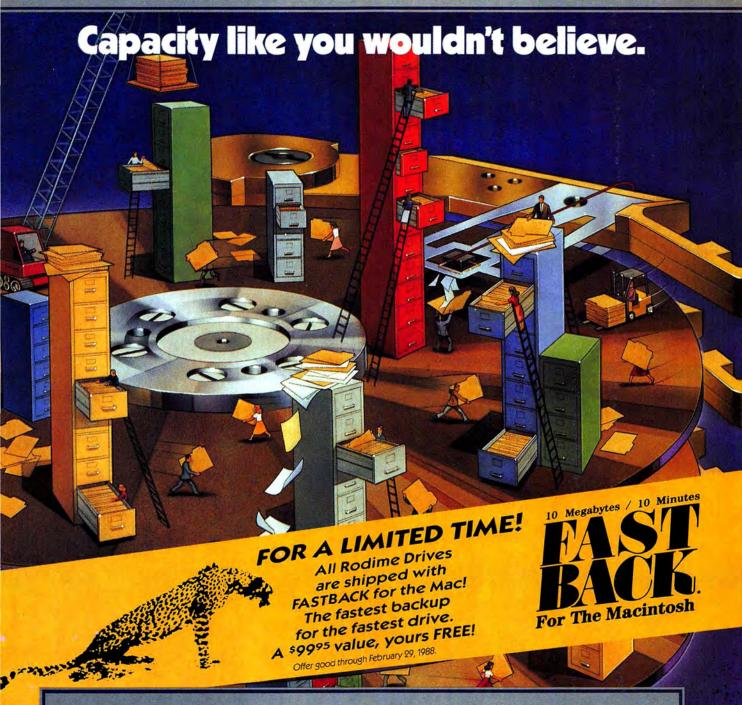
Seth R. Alpert Vice President Hugh Tietjen Business Manager Gary A. Gustafson

Production Director Walter J. Terlecki ZIFF COMMUNICATIONS COMPANY

Chairman Philip B. Korsant President Kenneth H. Koppel Senior Vice President Philip Sine Vice Presidents Laurence Usdin, William Phillips, J. Malcolm Morris, Steven C. Feinman

Treasurer Selwyn I. Taubman Secretary Bertram A. Abrams

Rodime drives for the Mac.



The largest capacities of any hard disk drives for Macintosh™—140 megabytes with the largest selections, 20, 45, 100 and 140! And the fastest average seek times...28 ms!

A combination any Mac user would love.

The 450 RX™—45 megabytes of internal storage for the Macintosh SE and Macintosh II.

The 1000 RX™ and 1400 RX™— 100 and 140 megabytes of internal storage for the Macintosh II.

And the PLUS External Series for the Mac Plus and SE. 20 and 45 megabyte capacities and our new 100 and 140 megabyte external box that fits right under the Mac.

The 20 and 45 megabyte internal PLUS drives have fans that cool

RODIME

the drives and the Mac Plus. Designed by Rodime for easy installation.

Best of all, the RX and PLUS Series drives have the unmatched reliability and support of Rodimethe largest supplier of hard disk technology for the Macintosh.

Rodime drives. The largest capacities and the fastest speeds.

Load up with the leader and you'll be a believer.

Rodime, Inc., 29525 Chagrin Blvd., Pepper Pike, OH 44122, 216-765-8414 Rodime PLC, Nasmyth Road, Southfield Industrial Estates, Glenrothes KY6 2SD, Fife, Scotland

Beyond words.

Introducing *The Big Picture® CX*Exceptional Color Large Screen Display

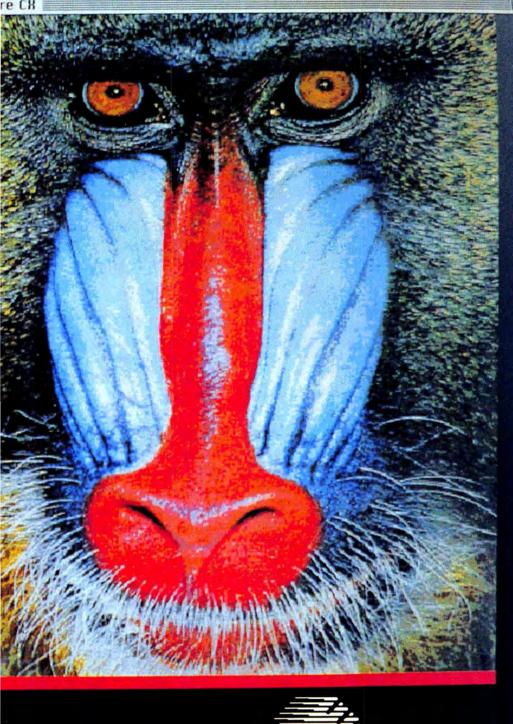
Until now large screen color has meant compromising brightness, sharpness and your budget.

The Big Picture CX shows big, sharp 1024X808 images in incredibly bright color.

Yet it still displays crisp and contrasty text that won't strain your eyes. And at a price much lower than other color monitors that show you less.

See The Big Picture CX and E-Machines' other high performance monitors at your Apple Macintosh dealer.







E-MACHINES

9305 SW Gemini Drive Beaverton, OR 97005 (503) 646-6699

Power to See your Best

Hr State di

Solve Mac problems like an expert!

"1st Aid Kit™ falls into that special category of 'must-have' products" (MACazine, April '87). It lets you handle every Mac problem from difficulties copying files, printing, and using AppleTalk networks, to recovering lost data from deleted or damaged files and unreadable disks.

Acclaimed by novice and expert alike, the 1st Aid Kit is much more than powerful software. At its core is a clearly written troubleshooting guide that:

- lists every imaginable error condition
- helps you quickly track down solutions to any problem
- takes you step-by-step through each recovery effort
- shows you how to avoid problems

Macintosh is a trademark of Apple Computer, Inc. 1st Aid is a trademark of 1st Aid Software, Inc. "The definitive product for troubleshooting on the Macintosh" (Macworld, April '87). It "stand[s] head and shoulders above any other product like it . . . I can't recommend 1st Aid Kit strongly enough" (MACazine, April '87).

1st Aid Kit \$99.95

HFS Version: MacPlus, Mac SE, Mac II MFS Version: 128KMac, 512K Mac, MacXL

Available direct order 24 hrs.

1-800-THE-FIXR In MA 617-847-4190

VISA & MC accepted, \$5 s/h UPS ground, in MA add 5% tax

Not copy protected

Dealer inquiries welcome



42 Radnor Road, Boston, MA 02135

Please circle 215 on reader service card.



Break Those Handcuffs

Introducing SoftBackup
Free yourself from the daily duty of backup. With
SoftBackup™, you can backup by the clock.
Without being anywhere near a Macintosh™.

Timed backup lets you set a time when backup will begin automatically. Run SoftBackup and set backup to start at midnight, for example. Then quit and go on to your other Macintosh work. Your files will automatically be backed up at midnight.

SoftBackup has all the features you'd expect from a backup product, including image and file by file backup, AppleShare file server support, and much more. Work with scripts-collections of files, folders, and options - to quickly save just what's needed. Back up to the media of your choice - use floppy diskettes or popular tape drives like those from Apple, LoDown and General Computer.

So break those backup handcuffs.

SOFTBACKUP Software Backup for Macintosh"

DIO

Diversified I/O, Inc.

1008 Stewart Drive, Sunnyvale, CA 94086 408-730-2171

Single user list price: \$69.95. Multiple user list price: \$139.95. SoftBackup is a trademark of Diversified I/O, Inc. Macintosh and AppleShare are trademarks of Apple Computer, Inc.

Please circle 51 on reader service card.

OMING J SOON

DOUBLE HELIX PLUS: the first in a series of linked, multipart review/tutorials of a truly relational data base.

Quality half-tones by THUNDERSCAN. What can we say? We're thunderstruck.

Search no more. We've found the ultimate action arcade game and it's CRYSTAL QUEST. How to play THE game.

Missed the Mac Expo? Never fear. Our SHOW RE-PORT will provide all the details on the latest and greatest newly released Macintosh products.

LUS

The Macintosh Boundary from Doug Clapp. John Dvorak on the state of the Mac. Neil Shapiro's Editor at Large. Robert Wiggins' Pinstripe Mac. Steven Bobker's Editorial Privilege. Dan Cochran with Answers from the Mac Team. Three pages of hints and tips. Over 300 MiniFinders. An expanded Quick Click section, now including hardware.



FINE PRINT WEASEL

Editors absolutely reserve the right to publish none, some, all, or just the parts we managed to complete of the above, due to the inherent problems that occur when reviewing software, hardware and the ever-elusive vaporware.



MAC TO PC ELECTRONIC MAIL THEIR WAY.



MAC TO PC ELECTRONIC MAIL OUR WAY.

"As an actual user of the product, I am particularly

Andrew Seybold, President, Infonetics (industry analysts)

John Sculley, Chairman and CEO, Apple Computer

"The world's best electronic mail system."

Next to InBox,™ the best way to send messages and files between MACs and IBM PCs is to walk. Or run. Or even fly. Because other electronic mail software is complicated, confusing, and in some cases, too stupid to tell the difference

between a PC and a carrier pigeon.

InBox is different. In just minutes you'll be composing, sending, and routing messages and files to everyone in your group and other groups. Over an inexpensive AppleTalk network which can include MACs, PCs, and compatibles. From a simple phone message to detailed

memos with attached files (like spreadsheets, MORE™ documents, letters, graphics, etc.), InBox lets groups or an entire company share information fast. So communication time goes down. And office productivity goes up.

Even if you're not at your desk or if your computer's off, messages, mail, and transferred files are waiting for you... delivery is virtually guaranteed. InBox can be the beginning of hyper-effective communications. And the end of paper mes-

sages and memos. Perhaps that's why InBox is the best seller and *MacUser*

Magazine's "Editor's Choice." If you want instant communication between MACs and PCs, forget pigeons. Get InBox. It's the first

"Once you have InBox, you can't live without it."

Joseph Garappolo, Sr. Manager, Peat, Marwick, Main & Co.

Get InBox. It's the first, MORE™

electronic mail software that really flies.

lets groups or an Call 800-64-THINK today for more information.

CHOICE



THINK

A Division of Symantec

THINK Technologies Division, 135 South Road, Bedford, MA 01730, 617-275-4800. Three user starter kit suggested retail price \$350. MORE and InBox are trademarks of Symantec, Inc. © 1987 Symantec Corporation

ТНЕ

excited about InBox.

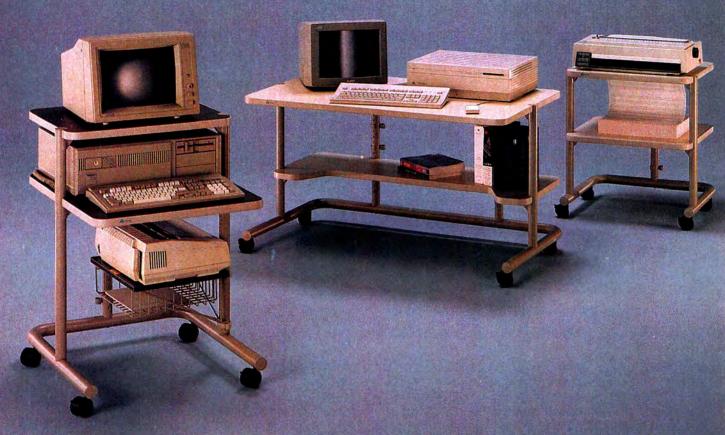


AnthroCart®

The original AnthroCart. Mobile. Incredibly strong. So many ways to solve your space and equipment problems. Choose different sizes. Move shelves around. Add space saving options.

AnthroCart. Well designed technology furniture. Look for our name.

Call us: 800-325-3841









Made in U.S.A. Holds up to 150 lbs.



Anthro[®] Corporation Technology Furniture

Anthro Corporation is a subsidiary of Tektronix Inc., Anthro is a registered trademark of Anthro Corporation.



by Steven Bobker

Small Is Beautiful

There was once a small software company in Monterey, California called Greene-Johnson. Their main product was *Spellswell*, one of the first and best spelling checkers. The name was a tiny joke, since you could pronounce it spells well or spell swell. Either way it was good enough to win an Eddy in 1986.

During 1987 Mike Greene and Dave Johnson split up, with Dave keeping (and improving) *Spellswell*. Dave also changed the company name to Working Software and released *Lookup* and *Findswell*.

Lookup lets you check a single word as you type, much the way writers really use dictionaries and other spelling aids. And it's simple. And great. Findswell adds a file finding function to every file selection list dialog. It's a real time saver for those of us with lots and lots of files buried on our disks. And it, too, is simple. And great.

In fact, all three Working Software products have earned five-mouse ratings from us. Never before have all of a company's products been top-rated like that. There's an attention to design, detail and testing that other software companies could learn from. Even the box art and other packaging is exemplary. Working Software isn't a major player in the software market, but it's one of the best. It's the sort of company that makes the Mac so exciting a computer (and my job so much fun).

Meanwhile, Mike Greene didn't fade off into the golden California sunset. He started Greene, Inc. and his first product, *QuickDEX*, has gained high ratings and wide acceptance as the best name, address and telephone number DA. It can do more than that, being a simple free-form data base in DA form. It's elegant, smooth and has a real future.

And Greene, Inc. has just released a game that is sure to be on everyone's best game list. It's called *Crystal Quest* and is designed to run in glorious full color on a Mac II. In fact, it's easier (and more fun) to play on a Mac II, but runs on any machine with at least 512K of memory. Still, it's really a Mac II game.

It's addicting. As a rule I hate arcadetype games (which *Crystal Quest* is), since I'm too old for that sort of thing and my reflexes aren't what they used to be (or what I think they used to be). I didn't like *Dark Castle*, I hated *Lode Runner*. I love *Crystal Quest*. Unfortunately the whole *MacUser* staff loves it, too. In fact, if this issue is a bit shorter than the February issue (I don't know yet exactly how big this issue will be), you can blame *Crystal Quest* at least a little. It's now banned most of the time in our offices.

Five winners out of five tries is impressive. But not lucky. Dave and Mike have worked very hard. They start with a love for the Mac. They take full advantage of the interface. They change the interface in ways that are totally intuitive. Consider *Findswell*. It starts by putting a new button in a dialog box. That sure isn't something you saw in early programs. But it's still right. The button says "FindswellTM" and gives the command-key equivalent. Click on it and you go directly to the Find What dialog. Couldn't be more foolproof.

What their products don't have are extensive manuals. They don't need them. Just get into one of these programs and do what feels right. It always is. There are no unnecessary complications. There are no hidden tricks. That's what the Mac interface is

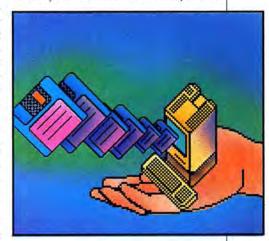
These guys didn't start with a marketing concept; they started by identifying problems. Then they created solutions.

Unfortunately, as the software market gets bigger and bigger, the big players can crowd out the good little players. The little guys can't afford the costs of making their products known. They get lost in the noise. Here's an example. A recent Egghead Software ad featured Electronic Arts' version of Scrabble for the Mac. It's awful. Don't buy it. If you have a copy, see if you can return it. It's a sloppy job, a conversion that was meant for some less capable computer. The release copy we got even had a British keyboard mapping (type "m" and get "n", type "n" and get "b", etc.). The program was written in England and not even fixed for the American market. (We told EA about this and after we explained how to fix it, we hear that they did. But early copies will still be defective. If you have such a copy and want to fix it rather than just toss the game - write me and I'll tell you what to do.)

I've digressed (an editorial disease). The point I started to make is that Egghead, which is a good and reputable software retailer (and who will take returns (hint, hint)), is pushing what it considers to be a major product from a major software publisher. EA sells a lot of software to Egghead. They know each other.

There's nothing illegal or even immoral going on here. Egghead is comfortable with EA. They know EA can deliver whatever quantities of product are needed. The fact that EA's version of *Scrabble* is awful does not seem to have been considered. All that matters is that EA can market it and so can Egghead. I really like Egghead Software and wish they'd take a better look at the programs they want you to buy.

This problem has another dimension. Unless you don't want to sell your product in stores, you need to have it distributed by one or more of the major soft-



A ll three Working
Software
products have earned
five-mouse ratings from
us. Never before have
all of a company's
products been top-rated
like that.

ware distributors. Many stores only deal with these one-stop software sources. These companies won't sell just anything either. You just don't go to them and say: "Here's my wonder program. Please get it to the panting masses." They all have standards.

The distributor with the highest standards is Bonsu, a Mac-only company, but the rest (SofSel, MicroD, etc.) are also quite good. And all of them have a price cutoff, a minimum suggested retail for

Because pulling down



For everyone who is still pulling down menus or remembering awkward keyboard commands, Olduvai presents ICON-IT!
Now you can add custom icons to all of your applications to represent your most frequently used menu items, including desk accessories, fonts, FKeys and even Excel, QuicKeys and Tempo macros!

Over fifty Icon Bars for the most popular programs are included, or you can easily design your own. So if you're looking to save time, mouse clicks and keystrokes, see your dealer or call toll-free 1.800-822-0772. In Florida call (305) 665-4665. And ICON-ITI For a free demo, just send us a disk and S.A.S.E.



SOFTWARE FOR ANY SCANNER, INPUT ANY PRINTED TEXT INTO YOUR

Olduvai Corporation 7520 Red Road, Suite A, South Miami, FL 33143 (305) 665-4665 Fax (305) 665-0671

ICON-IT! runs on all Macs from 512KE to Mac II and is not copy-protected. Icon-It! Runtime and site licensing also available.

Icon-It! Runtime and site licensing also available.
All products mentioned are trademarks of their respective holders

OFDS: DEBIDHERALS SUCH AS TRACKBALLS AND INCITIZING TABLETS.

Please circle 121 on reader service card.

the products they carry. It's usually around \$50 or \$60. They need that price to cover their margin and the retailer's margin.

That's a sort of stiff price tag for lots of small companies with small programs. I remember Dave Johnson's anguish last May as we sat around after a Mac show discussing the price of the then soon-to-be-released *Findswell*. It's a small, simple program, it does a lot, but there's not much bulk in the package. Dave wanted to make his product affordable to as many people as possible and he wanted to get it as widely distributed as possible. The reality of economics in the software market led him to price it so the distributors would pick it up. I think he made the right choice, but it wasn't easy.

I'm told that some advertisers have angrily cancelled ads. So be it. We serve you, not them.

The big companies don't have to worry about things like that. They can often package a cheap program with others that the distributor wants. For example, EA could package its must-buy Mac package, *Disk Tools Plus*, with *Scrabble*. The unintended result could be to lock a good program from a small company out. There are only so many games that can be carried, displayed and sold.

We at MacUser have always felt a special obligation to cover all good software, no matter the size of the company that publishes it. It doesn't matter to us whether or not the publisher is big and rich or not. Being an advertiser, or even thinking about being an advertiser, is not required. In fact, I know who has advertised in the current issue of MacUser when I get the first copies. Every now and then I get a call that basically says the current ad depends on a good review or an upgrade in the mouse rating or something similar. (I'm sure all magazines hear these "requests.") My answer is always the same, and always simple. "You'll get the review you deserve. If you don't want to advertise here that's your decision and it won't affect any of mine. Goodbye." I'm told (by our advertising people) that some advertisers have angrily cancelled ads. So be it. We serve you, not them.

I'd like to take a few moments of your time to tell you about some other small software companies and their products. You may have to look a bit for these products, but they'll be worth your efforts.

Kent Marsh of Houston, Texas has a neat product called *MacSafe*. It lets you restrict access to selected files on your hard disk. They have a second product, *The NightWatch*, that I haven't seen yet. It's also a hard disk security program. These are programs that solve real problems for many people.

Dubl-Click Software of Northridge, California is the premier publisher of ImageWriter fonts. Their two-volume World-Class Fonts set is superb (and a bargain). They also have some neat utilities (the Big Caps DA, a vast improvement over Key Caps, is theirs).

Software Supply of Sunnyvale, California publishes *Suitcase*, a runner-up for best new Mac product of 1987 (and Eddy winner for best new utility), and *PowerStation*, an elegant *Finder* alternative

SoftView, of Camarillo, California, is a borderline small company, but they certainly were small not long ago. Their tax programs, *MacInTax* and *Tax Planner*, are first class in all respects.

PCAI, of Champlin, Minnesota, publishes two of the neatest action games I've ever seen: MacGolf and MacRaquetball. MSFL Pro League Football from Micro Sports of Chattanooga, Tennessee, is the game for football fans.

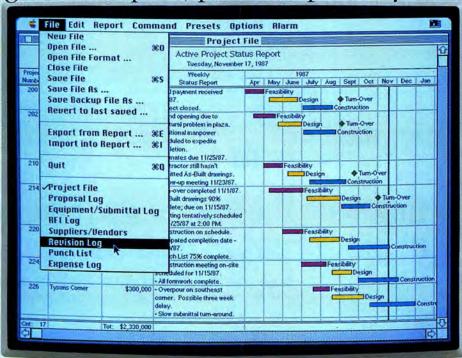
Nashoba Systems, of Foster City, California, wrote the popular FileMaker Plus and is now keeping it alive. CE Software, of Des Moines, Iowa, was, if not the first, among the first shareware publishers of Mac software. They now publish both software and commercial products. Their newest (at press time; they'll have another by the time you read this), QuicKeys, is virtually a necessity for owners of Extended Keyboards. It won an Eddy in 1987.

If you have files to fix, three programs from small publishers are absolutely required. They are, in no particular order: MacZap (great name!) from Micro-Analyst of Austin, Texas (be sure to get version 5.0 or higher); Fedit Plus from MacMaster Systems of Sunnyvale, California; and 1st Aid Kit from 1st Aid Software of Boston, Massachusetts (get the HFS version — it's better and more useful).

That's only a partial list and I've run out of space. There'll be more next month. Meanwhile, check out the small software publishers; you'll find some great programs and some great bargains.

Before the day is over,
you'll be expected to track 651 submittals,
update 3 project schedules, approve 27 change
orders, organize 517 bits of new information,
make 312 separate decisions, create an up-to-the-minute

bar graph showing your project's actual progress and give a complete, printed report to your boss.



Fortunately, you have AEC Information Manager.™

Introducing AEC Information Manager, the flexible, user-definable software designed specifically for the management and tracking of projects, activities, documents, scheduled processes and people.

With AEC Information Manager you can create on-screen and hard-copy reports from your data instantly, using report formats that you can easily define to suit your particular needs. And you can combine columnar and graphic data in the same report, while also supporting color display and printing. Plus, AEC Information Manager updates related reports automatically whenever new data is entered.

Programmable alarms, v custom work schedules, note pads, time dependent fields, automatic calculations for start dates, finish dates and durations, and powerful reporting and graphing capabilities make it possible to monitor and manage *any* amount of information. And because AEC Information Manager was designed exclusively for the Macintosh, it's intuitively easy to use, requiring no special programming skills.

That's just part of what AEC Information Manager can do. To find out more, call 1-800-346-9413, today for our FREE information kit. Or, for just \$25,* we'll send you our demo disk and manual.

*The \$25 cost of the AEC Information Manager demo disk and manual will be automatically credited toward the purchase of an AEC Information Manager software package. Call 1-800-346-9413 for our FREE information kit, or our \$25 demo disk, today! (In Maryland, call (301) 428-3694.)

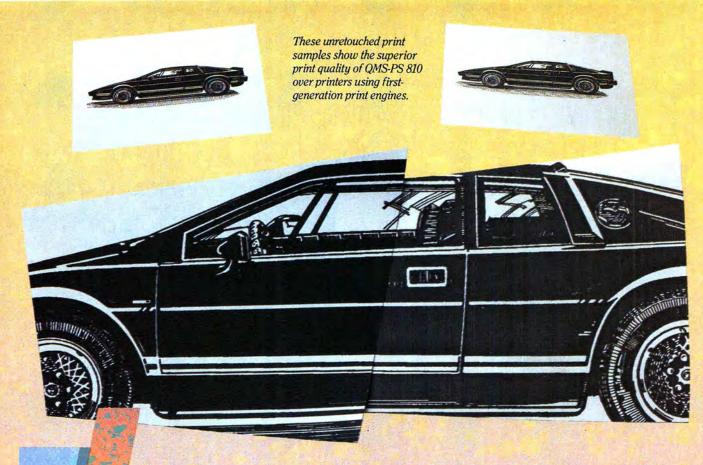
AEC Information Manager™

The project-oriented information manager for people who can't afford to leave anything to chance.

I'm interested Information M	in knowing more about AEC anager™
☐ Send me you ☐ Here's \$25, s	r FREE information kit right away. end me your demo disk and manu
NAME	
ADDRESS	
СЛҮ	STATE ZIP
	fanagement Systems, Inc., 2052 , Germantown, Maryland 20874

AEC Information Manager operates on Mac Plus, Mac SE and Mac II computers, or any Macintosh computer with I Megabyte of memory, AEC Information Manager prints out on all Apple ImageWriter and LaserWriter printers, and can support color plotters.

Please circle 6 on reader service card.



ntroducing the PostScript laser printer that blacks out at high speeds.

The new QMS-PS* 810 can compose and print the most complex pages in record times, with richer, more saturated blacks than ever before. All with the desktop publishing power of Adobe PostScript*, and the superior print know-how of QMS, an industry leader.

Under the hood QMS ASAP™ (Advanced System Architecture for PostScript) is proprietary technology that helps eliminate the hardware bottlenecks that hinder other PostScript printers. As a result, QMS-PS 810 boasts processing speeds remarkably faster than other PostScript printers in its class. And faster output means greater productivity. In addition, the QMS-PS 810 laser

printer's new Canon' SX* print engine covers solid areas and prints fine detail better than previousgeneration engines. Fast start, strong finish You can adorn your documents with one or all of the 35 Adobe typefaces. Thanks to PostScript, there's an infinite number of font variations available. You can also make type as large or as small as you want. And put it anywhere on the page. In fact, with PostScript you enjoy total control over the design of your page. It gives you the complete desktop publishing power to do things that would otherwise be virtually impossible. So you get high-quality output exactly how you want it.

Along with PostScript, the HP LaserJet+™, Diablo* 630 and HP-GL™ printer emulations are added for your non-PostScript software.

The QMS-PS 810 laser printer is easy to use, maintain, and comes with a one-year warranty. It's available from Laser Connection dealers. Laser Connection is a sales and marketing subsidiary of QMS. For the dealer nearest you call **1-800-523-2696**.



A QMS company

The following are trademarks of their respective companies; QMS, QMS-PS, ASAP, Laser Connection of QMS, Inc. PostScript of Adobe Systems, Inc. Canon, Canon SX of Canon, U.S.A. LaserJet + , HP-GL of Hewlett-Packard. Diablo of Xerox Corp.





by Neil L. Shapiro

Big, Bad Apple

s Apple getting too big?
I've been a Cupertino watcher since 1978, and an Apple stockholder since they went public. I even held onto all of my Apple stock right through Black Monday because I think Apple will be one of the first to regain its former glory.

I've seen Apple go through all of its many past gyrations, confusions and contusions, victories and innovations. I was one of the first to buy an Apple II. Since then I have owned a II+, a IIe, a IIc, a IIG, a IIGS, a Mac, a Mac 512, a Mac 512E, a Mac Plus and a Mac II. The only IBM "compatible" I own is a Toshiba T-1100+ and that's just because Apple has yet to come out with a laptop (and if I had known when I bought it about the no-goods at Toshiba selling nuclear submarine secrets to Russia I would have bought a Radio Shack instead).

As one of the only people who knew anything at all about computers while working for a major publishing company (not this one) in 1979 and 1980, I was tapped by high management to help

them computerize.

I personally installed various Apple IIs, spent hours and hours not only explaining computers, but why they were needed and why Apple was the best. I used to go to bed at night thanking the Lord (and Bricklin and Frankston) for the *VisiCalc* program. And I used to smile when someone making almost a hundred times my own salary would claim they now knew how to program because they could write a simple spreadsheet while being unable to even get a disk directory on-screen in the regular operating system.

Then, suddenly, for no reason other than sheep-like stupidity Apples were out and IBM was in. It was a big corporation. Like tends to go with like. It wasn't what the PC could do that made it the darling of the corporate eye; it was that the big corporate types were never really comfortable with the image of California hacking that was so much a part of Apple

then.

Then came 1984. The Macintosh.

Power. Beauty.

Promise.

I was in a new position within that company, charged with investigating the possibility of getting into such things as software publishing. The first official phone call I made was to Guy Kawasaki.

I wonder if Guy still remembers that call. It was a riot. I had to bum a free copy of *Inside Macintosh* from him.

As I explained, it was a big corporation but I didn't have a budget approved yet. All I had in my office was three desks, two Lisas and one telephone. The only way I could come up with a hundred dollars would have been from my own pocket, which meant it was literally impossible.



Guy, of course, didn't know me from Adam at the time. But I guess my babbling about the Macintosh and the desktop, about how I ran an on-line Apple users group impressed him.

Of course, it impressed him in a Cupertino kind of way. I imagine you could call IBM in Boca Raton and babble forever about how you love their computers and die from starvation before they sent you anything for free.

Anyway, the next week I had the three huge *Inside Macintosh* binders. We were, I thought, on our way.

But, not quite.

No one, not one person in any position of corporate authority, would or could bring themselves to believe that the Macintosh could ever establish itself as an alternative to the IBM PC. My Macintosh development efforts were snuffed. I spent the remainder of my time at the company on other projects.

How many of you reading this have had similar life histories when it comes to computers in large corporations? I would be willing to bet that the majority of you who have been around a long time could tell very similar stories.

But what happened?

The corporate pundits were wrong. They tripped on their own petards, dropped their crystal balls on their toes and even now are scuttling to catch up to where we are today — in the realm of Mac. How did this happen? Was it that Apple's four-color advertising campaigns paid off? No, not really.

The Macintosh "made it" because of a complex interweaving of people, places and events that I have come to refer to as the phenomenon of the Macintosh Com-

nunity.

YOU, ME, EVERYONE

The Macintosh has had something different happen to it — it has been championed by The People. Macintosh owners at first fell in love with the Macintosh and the whole milieu of things involved with the Macintosh. It instantly became more than a machine. It became a cause.

Suddenly people at various large corporations began to insist, to demand that these corporations pay more attention to their computer needs than learning how to pronounce three Big Blue initials.

The Macintosh Community began in early 1985, composed of users, developers and Apple itself. Communicating with each other in the media, via private correspondence, at in-person shows and over the computer networks, people began to form almost an electronic version of Woodstock. As an old fogey I remember Woodstock and how the love of good music and good "vibes" could turn disparate peoples soaking to death on a New York farm into at least a temporary "nation."

Well, the love of a good computer system and of a good computer company was doing the same thing here. People were getting more than just involved with the Macintosh as a computer, they were getting involved with other Macintosh people, other parts of the community.

IT'S A SMALL WORLD

Much of this community of feeling stemmed from the fact that Apple was composed of people. Real faces.

When the Macintosh was first launched there must have been hundreds of stories told about the intrepid design team. While Woodstock had "Country Joe and the Fish" we had "Bill Atkinson and Andy Hertzfeld." While at Woodstock they traded stories and mythos, in the Macintosh Community we had our own legendaria (remember the pirate flag on the Mac Building?).

Small developers flocked to the Apple banner, hoping and dreaming that they would become the next Microsoft. Some of them made it. Others just became mildly wildly successful.

BIG BUSINESS

But I see now that a part of the Macintosh Community is beginning to waver a tiny bit in what makes for Community feeling. I'm afraid that Apple may indeed be becoming not too big per se — but too "big-oriented."

I know that as one of the editors of a large magazine devoted to the Macintosh computer I "should" be a cheerleader of Apple's corporate growth. And, ordinarily, I am.

But there have been a few things in the past year that I've seen as threatening to the overall pattern that Apple has established as being the "grass roots" computer system.

First, there is the issue of competition. The Apple has attracted tons of developers. One of the reasons is that people have always trusted Apple Computer. I The Macintosh has had something different happen to it—
it has been championed by The People. It instantly became more than a machine. It became a cause.

know that many PC developers in the past felt that IBM would do anything to make a buck and so were hesitant about hitching their star to that company.

But Apple has always been a computer manufacturer first and foremost. While no clone maker ever felt very welcome in Cupertino, no software developer ever felt threatened.

Not until recently anyway. I've talked in the past few months about the Claris spinoff and the bundling of *HyperCard*. My perception is that Apple needs to handle Claris at a further remove than they have thus far done. And, they need to make very clear that the *HyperCard* bundling was an extremely unusual thing.

While some people say "what could be bad about getting something for free?" the situation is that Apple may have too much more money than they know what to do with. If Apple wants to, they could, at any time, put almost any developer right out of business by simply coming out with a similar product and underpricing it or giving it away for free.

Why would they do this? Answer: To sell computers. The Apple line of computers, from the IIc to the Mac II, have one thing in common. They are pricey. The more free things that come with a computer, the easier it is to justify the cost.

The difference between WRITE AND WRONG:

SENSIBLE GRAMMAR. It checks your papers for common and not-so-common writing and grammatical errors quickly and easily. Embarrassing typos and simple mistakes are a thing of the past with Sensible Grammar.



Check for many grammar errors caused by improper verb tenses and article/noun, verb/modifier and noun/verb agreement. Check mechanics for improper abbreviations and capitalizations, redundancies and properly-formed numbers. Catch incorrect commas, parentheses, periods, spaces and other common punctuation errors. Writing style is checked against over 3,000 com-

monly misused wordy, racist and sexist phrases and cliches. Sensible Grammar even knows exceptions to the rules.

And Sensible Grammar never goes against your judgment. It makes suggestions which you can use automatically, ignore, mark, or replace with your own wording using the full sentence editor.

Sensible Grammar. The "write" way to improve your writing skills.

SENSIBLE SPELLER™ It checks, either during or after typing, over 83,000 words derived from the official Random House Dictionary for correct spelling. Sensible Speller also checks capitalizations, abbreviations, doubled words



and more. And it always makes suggestions which you can ignore, mark or replace with your own. Sensible Speller is the "write" way to improve your spelling skills.

Black's Law Dictionary, Sensible Technical Dictionary and Stedman's Medical Dictionary (\$39.95 each), available separately on diskette for use with Sensible Speller.

Sensible Grammar (\$99.95) and Sensible Speller (\$79.95) compatible with PageMaker, MacWrite and Microsoft Word.



335 East Big Beaver, Suite 207, Troy, MI 48083 • (313) 528-1950

Please circle 112 on reader service card.

MAKE A POSITIVE FINANCIAL STATEMENT.

If your cash is flowing in the wrong direction, it's time you turned the tide with Dollars and Sense® 4.0, the financial management program for Macintosh™ computers that actually manages your money, instead of merely counting it.

It loves you as much as your money.

The reason over 250,000 users like Dollars and Sense is that it dispenses with the drudgery quickly and easily. It hates dry, boring work almost as much as you do.

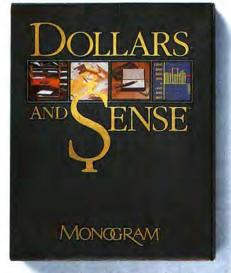
Double-entry bookkeeping is automatic. Cutting and

Cash Flow Report 1988 Ort					
Accounts	Budgets	P	1987 10		
CASH AT START			Balances		
1001 Liquid Assets	A . 1 . 1			t .	
1100 Personal Checking	1,250.00			1986 Balance	
1110 Cash	50.00	181	3,415.00	1986	
1120 Credit Union	5,673.00	18	50.00		
1130 Stock Savings Plan	28,515.00	18	0.00		
1140 Stocks & Bonds	93,735.00	15	26,165.00	2,345 00	
	_	150	90,735.00	43.00	
Total Liquid Assets	129,428.00	61		0.00	
			120,365.00	23,897.00	
1200 Fixed Assets			100,000,000	72,541 00	
1210 Horse	204,900.00	100			
1220 Rental A	157,000,00	100	200,000,00	98,626 00	
1230 Rental B	140,000.00	18	150,000 00	1	
Total Fixed Assets	501,900.00		140,000.00	196,000.00	
	201,900.00	197	490,000,00	145,000.00	
		6.0	470,000,00	132,500.00	
Total Cash At Start	631.323.00	197		102,300,00	
		5	610.365.00	473,500.00	

New version 4.0 adds sophisticated reporting, analysis and "what if" capability to the world's best-selling personal financial management program.

pasting between windows is a snap. In fact, everything is so much easier that you can finally use your time to concentrate on how your money works.

Instead of how the software works.



It could pay for itself the first time you use it.

Once all your entries are recorded, Dollars and Sense offers you all kinds of ways to interpret your financial situation in graphic detail.

All you have to do is ask questions like, "What if?" "How?" and "Why?"

In a heartbeat, questions about your past, present and future are answered with lists, charts and graphs that clearly indicate whether

you're headed for big bucks or the big bang. You can examine trends, make projections. And even flag special entries for special purposes.

Like those somewhat questionable write-offs.

All of which could save you much, much more than the paltry cost of the world's most fabulous financial software.

A few closing statements.

What else would you like? Income statement? Balance sheet? Chart of accounts? Cash flow? Customized reports? They're just a few of the financial insights you can gain. In fact, Dollars and Sense is so sophisticated that over 100,000 small businesses use it to do their accounting.

And version 4.0 gives you some truly helpful new features. Like sorting capability. Two years' data capacity. And an uncanny ability to import and export data from other programs—like Excel.™

So if you'd like to make a positive financial statement— or just an assessment of your personal value—let Dollars and Sense take charge of your finances.

It's the surest way to make your money account for itself.

MONOGRAM

531 Van Ness Avenue Torrance, CA 90405

(213) 533-5120 FAX: (213) 533-1365 CompuServe ID: 76701,113

Please circle 95 on reader service card.

Naked!

That's how you leave your hard disk without The NightWatch ™ & MacSafe®

Sorry to startle you, but the naked truth is that if you're not using *The NightWatch* & *MacSafe* to protect your hard disk files, anyone with access to your Macintosh can browse freely through your files — even changing them without your permission, or knowledge. And it could be tonight!

With *The NightWatch*, you can shut down your hard disk securely when you leave the office. All night long, *The NightWatch* stands guard, preventing unauthorized access or erasure of your hard disk. When you come in the next morning, start up with *The NightWatch* user disk & enter your valid name and password. A simple & elegant security solution.

If you share your Mac during the day, then *MacSafe* can help you restrict access to individual documents & applications. With *MacSafe*, you create folder-like safes and place the files in them you want to protect. It works much like the Finder, so you



already know how to use it. With *MacSafe's* true password protection system (no encryption required), no one will be able to get into your safes without the correct password. Simple, familiar, & fast.

Join our satisfied customers from Fortune 100 companies, universities, and small businesses in protecting your valuable files with *The NightWatch & MacSafe*. *MacUser* magazine said that with *MacSafe* "you can rest assured that your files are in safe territory — 4 mice!"

Want to know more? Call your dealer and ask about *The NightWatch* & *MacSafe*. Or, call us and ask for our free booklet: *The Naked Truth: Tips & Facts for Hard Disk Security*.

Call your dealer or KentôMarsh Ltd.

☎ 800 • 325-3587

Call Today!

1200 Post Oak Blvd. • Suite 210 • Houston • Texas • 77056-3104 • D0291 AppleLink • 260-8648 MCI



KentôMarsh Ltd. Security Software You Can Count On

Please circle 238 on reader service card.

But the cost can be long-range as well as short-range. Computers such as the Macintosh are an excellent buy today because of the range of software and peripheral possibilities provided by third-party developers. If these third-party developers perceive Apple as being competitive with them, what could happen? (And we're not talking about normal competition here but the possibility of giving away A to sell B.) They could leave and Apple could find itself in the untenable position of trying to be a jack of all trades for all people.

Another problem Apple faces is depersonalization. I *like* that the original Mac team signed the inside of the Mac case. However, big businesses do not like to

A lot of the thrill of owning a Macintosh is knowing about the people behind it. Apple must be certain never to become a faceless entity.

personalize their products with the names of the behind-the-scenes employees. Who, for example, designed your toaster? Still, a lot of the thrill of owning a Macintosh is knowing about the people behind it. Apple must be certain never to become a faceless entity.

Yet another problem that Apple must "face" in the next year is dealing with their success in getting into businesses. Already I have seen reports from the Reuters news agency that the majority of Apple's customers are now large businesses. This is good. But it can also be a problem.

With success can come a certain degree of conservatism. Less chances are taken, less waters riled up. I wonder if Apple, today, would take a risk like they did in 1984? On this issue, I think they would. I think that Apple has so many things planned for us that conservatism is one charge they'll not have to face. I hope I'm right.

1988 can be a Community Experience, too. Just as long as Apple Computer never gives in to the impulses that would make of them a "Big Red."

TWO OUT OF THREE OF YOU ARE ABOUT TO TRASH YOUR ACCOUNTING PROGRAMS.



It's painful for a business to throw out its accounting software and start all over again. But that's just what most businesses do,

according to a recent survey by Business Software magazine.*

Business Sense™ will change all that. It's a fully-integrated, full featured program that overcomes the accounting problems most businesses are fed up with.

For one thing, businesses often find the program they started with can't grow to meet the demands of their success.

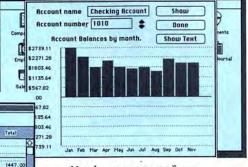
Business Sense gives you sophisticated cash flow analysis. You can age forward as well as backward to get a clear picture of your commitments.

Business Sense can manage up to 2000 employees, 2000 vendors and 2000 customers. And it handles checks up to a trillion dollars! It's accessible enough for a CEO, but powerful enough for a CFO.

According to the survey, accounting software can be difficult to use—even user-hostile.

Business Sense is easy to use-

even for non-accounting personnel. Instead of dealing with "integrated modules," you have one program disk with all the functions built in: General Ledger, Accounts Payable, Accounts Receivable, Payroll, Invoicing and Budgeting. They all work alike. Moving from one to another is as easy as pulling down a menu.



File Edit Function GL Report AR/AP/Payroll Report

Nearly every aspect of your financial situation can be reported in tabular or graphic format.

This extraordinary ease of use comes from the fact that Business Sense was designed from scratch for the Macintosh.

You won't find any of the balkiness of programs designed for other computers.

It's a bargain at under \$500. And it's from Monogram, publishers of Dollars and Sense,* the world's best-selling personal financial management program.

So there's no need to suffer any longer.

Every reason businesses throw out their accounting software is a reason Business Sense users won't. General Ledger • Manages multiple companies, up to 2000 accounts, five bank accounts, 99 departments or profit centers; unlimited transactions. • Handles checks to \$1 trillion. • Automates recurring entries.

Distributes data automatically on posting.
 Transactions can be reversed.
 Provides multiple open months.
 Imports Dollars and Sense
 files.

Accounts Receivable • Provides detailed history and analysis for up to 2000 customers, with credit limit warning and automatic credit memos. • Calculates and applies finance charges and discounts. • Handles partial payments. • Tracks commissions.

• Produces aging reports.

Accounts Payable • Manages up to 2000 vendors. • Tracks invoice date, due date and discount date. • Details aging for cash flow analysis. • Allows partial payments. • Prints 1099 forms. • Provides vendor analysis.

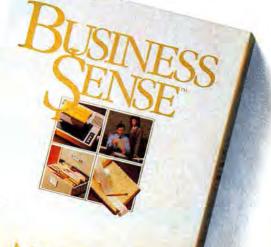
Payroll • Manages up to 2000 employees, 10 withholding and wage categories plus tips and fringes. • Prints W-2 forms, checks and 941 forms and handles federal and state taxes.

Invoicing is fully integrated into AR and GL. **Budgeting** • Sophisticated and flexible, reporting on departments, divisions and projects for any time period.

See your dealer or call Monogram for a brochure with a complete feature list.

MONOGRAM

531 Van Ness Avenue, Torrance, CA 90501 (213) 533-5120 FAX: (213) 533-1365



*Business Software Magazine Accounting Survey, July, 1987

Please circle 94 on reader service card.

HIGH PERFORMANCE

EXTERNAL MODEM

EMAC-MD2400

- Built-in speakerphone
 CCITT V.22bis (2400 bps)
 Bell 212A (0-300, 1200 bps)
 Full Hayes® compatibility
- Automatic data-to-voice switching (Lift telephone set)
- Diagnostics included in firmware

HARD DRIVES

EMAC-20D, EMAC-40D, EMAC-91D

- 20MB,40MB, or 91MB capacity SCSI intelligent interface
- Fast data transfer 1MB/sec.
- 18ms average seek time for 91D
- Built-in power supply
 50-pin shielded cable and terminator included

HARD DISK/TAPE BACKUP UNITS

EMAC-91/60 DT

- · Ideal for networks
- 91MB disk/60MB tape
- · SCSI intelligent interface
- · Mirror image/file-by-file backup
- Supports multiple cassettes Disk utility, 60MB cassette, cable and terminator included



DRIVING MACHINES

TAPE BACKUP

EMAC-60T

60MB high capacity cassette Data transfer 3.5MB/minute Mirror image/file-by-file backup Supports multiple cassettes
On-line "help" windows
Cable and terminator included SCSI intelligent interface

DELUXE HARD DISK/TAPE BACKUP

EMAC-40/60 DT Deluxe

- 40MB disk/60MB tape
- · Zero footprint design
- · ideal for networks
- SCSI Intelligent interface
- Mirror image/file-by-file backup
- Cables, terminator, cassette, tape software, and disk utility included

HIGH CAPACITY FILE SERVER

EMAC-FS100

- 261MB high capacity storage
 Built-in tape backup, 5MB/min
- SCSI intelligent interface
- Perfect for networks including: TOPS™, MacServe™, AppleShare™
 Memorybank Manager™ software
- included and pre-loaded

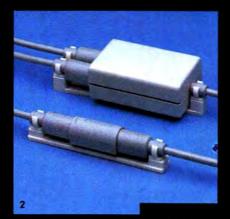


415-683-2222 Ask about our authorized

REX

Everex Systems, 48431 Milmont Drive, Fremont, California 94538

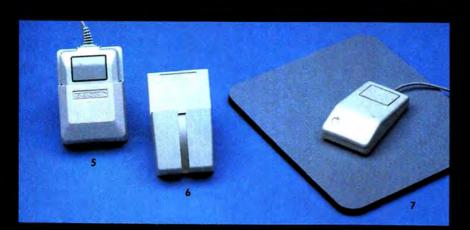




If only he'd noticed sooner—but now it was too late. His screen was buried under an inch of dust. His mouse looked like it'd been rolling around on the carpet for a year. And his beloved ImageWriter, had disappeared into the night...

Kensington Mouse Cleaning Kit and Mouse Pocket Tor Apple' and Microsoft: Mice STATE ACTION CONTROL OF THE STATE OF THE

KENSINGTON MAINTENANCE





Don't let it happen to you. Come to Kensington. We can keep your whole Mac system clean, healthy, and safe.

1. Our anti-static **Dust Covers** keep all your equipment clean—from your Mac II to your external 3.5" disk drive. \$9.95 to \$24.95

2. Our **AppleTalk Clips** keep your AppleTalk network connected. 25 Clips for \$25.00 or an assortment of 7 for \$13.75.

3 and 4. Our **Mouse** and **Disk Drive Cleaning Kits** will keep your mouse and drives sparkling clean and running smoothly for over a year. \$24.95 and \$29.95, respectively.

5 and 6. Our Mouse Pocket or Mouse Pocket ADB offers a safe resting place for your mouse. \$9.95.

7. Our **Mouseway** gives it a clean, quick-rolling work surface. \$9.95.

8. Best of all, our **Apple**Security System has
everything you need to keep
all that nice, clean equipment
just where you want it. \$49.95.

For more information, call (800) 535-4242. Outside the US, or in New York, call (212) 475-5200. Or write Kensington, 251 Park Ave. S., New York, NY 10010.

Please circle 144 on reader service card.

KENSINGTON... <

© 1988 Kensington Microware Ltd.



We're always happy to hear from our readers, so keep sending your comments to Letters to the Editor, MacUser, 110 Marsh Drive, Suite 250, Foster City, CA 94404. All letters become the property of MacUser and we reserve the right to edit any letters that we print.

A PAGE FROM OUR BOOK

The first issue of *MacUser* I received was December'85; it ran a svelte 152 pages. The page count inched up during 1986, and for most of 1987 it hovered between 180 and 200. The December '87 issue tipped the scales at a whopping 284 pages. I thought to myself, "Jeez, this is getting as big as the Brand X Mac magazine." You must be drowning in success, but I'm afraid of getting a hernia.

All is not rosy, however; the quality of your binding is suffering. When I opened the last few issues, the first several pages just came right out. This may or may not relate to the foldout covers you began using in the October issue (perhaps your theory is that if centerfolds attract readers of one sex, coverfolds will draw both sexes). I'm sorry, but this reader is more attracted by informative articles and bindings that don't fall apart.

Double or single, your November cover was a knockout of printing. How did you achieve the 3D effect between the lines in blue and those in white? Please tell me it was not accidental.

ten me n was not acc

PAUL O. JOHNSON DALLAS, TX

We'll stick with coverfolds as long as the Meese Commission lets us (and advertisers want them); we're working on the bindings. Art Director Lisa Orsini says the blue lines and the red background happen to be the same hues as the blue and red in 3D glasses. Your eyes inadvertently create the illusion of depth. — JZ

LOOK OUT BELOW

n various articles and advertisements in your magazine, mention is made about raising the Mac "higher" so it is at eye level and easier to see. Nothing could be further from the truth, especially if you wear bifocals.

On the contrary, bury the Mac, at an angle, in your desk or table and you will be able to see the keyboard and screen without moving your head, and a glance to the side lets you see the documents you are working with — and all those headaches and shoulder pains will disappear. Everyone who has seen my Mac, barely protruding from the table, agrees it's the only way to fly! Is there a furni-

ture manufacturer out there somewhere who needs an idea? JAMES T. HUMBERD RANCHO MIRAGE, CA

It works both ways. I have two Macs at home. One sits on a rather high desk and is further raised by two PCPC MacBottom hard disks. The screen is just about at eye level as I sit. I find that very comfortable. The other one sits on a ScanCoFurn MacTable, much lower and tilted back. That also works well. Personally, I like the higher position, but I can see your point. What I like more than the height of the screen is the small amount of desk space actually used. I like being able to use the same desk to compute and do other things. — SB

SEEING RED

he emperor has no clothes!

I read your review of Red Ryder 10.0 in the December '87 issue of Mac-User, and I'm appalled at the gee whiz tone of the review. Certainly it is the best Mac communications program, but



that's a very small universe. On an absolute scale of quality, there is no way it deserves 5 mice. It's full of bugs, such as file transfer protocols that don't work as expected, or give up part way through a transfer, and don't record the number of transmission errors, don't properly indicate whether CRC or checksum is being used, the pathnames for default folders aren't remembered between launch, etc.

In truth Red Ryder 10.0 is another Microsoft Word 3.0. This is even further born out by the appearance of 10.1, 10.2, and 10.3 in rapid succession on GEnic

Compared to MS-DOS telecommunications programs, *Red*'s collection of file transfer protocols is extremely limited, especially in the area of support for protocols that are efficient over packet switched nets (like WXmodem, Zmodem and SuperKermit).

The time has come for somebody to write a high quality terminal program for the Macintosh. A program with features that we need, like efficient, bug-free file transfer protocols rather than junk like animated phone books, macro button scrolling and icons that stick out their tongues. Who will take up the challenge? ERIC LARSON MARCELLUS, NY

Point taken, but that "very small universe" is, after all, the context in which Red Ryder is judged for the mouse rating. I wholeheartedly support your call for a bugfree telecommunications program. — LK

INITIAL PROBLEMS

here is a serious problem with the System. In the past three months I have met four people who have accidentally erased the contents of their disks. When a double-sided disk is placed in a single-sided drive, the user is met with a dialog box which asks if he or she wants to initialize their disk.

To the beginner, the word "initialize" gives no hint that their data will be erased. I urge Apple to include a warning which states: "Warning: this action will erase all data on the disk." The problem is very serious. And the solution would be trivially simple to implement.

ROBERT STURIM NEW YORK, NY

HYPEBUSTERS

A fter reviewing the last few issues of MacUser, I compiled the following figures regarding the number of inches devoted to discussion of HyperCard:

October: 1.7 November: 100.2 December: 646.6

Well, this program seemed important. I went out and bought *HyperCard*. I was so impressed that I also invested two-thirds the price of the program in Danny Goodman's book. After fiddling with *HyperCard* a little bit, I was sore impressed.

I started writing scripts (easy thing to pick up, these scripts). It was then I discovered that the scripts were interpreted, not compiled. I should have suspected this fact from the ease of operation of *HyperCard*.

I thought that I might be able to write external procedures to speed up the process. However, Goodman's much-touted book devoted only one half page to this subject, totally ignoring how to access card numbers, button numbers and field numbers from external resources.

So I have concluded that while Hyper-

MacUser Magazine: "Just like humans, the older your disks get, the more they slow down. Computer gurus have dubbed this electronic hardening of the arteries 'disk fragmentation'. Fortunately, there's a program that can restore your disks to their youthful vigor. It's called DiskExpress. [After running DiskExpress] the resulting speed improvement was impressive."

MacWorld Magazine: "DiskExpress from ALSoft can get your files back together and make you feel good about disk I/O again."

MACazine: "DiskExpress is easy to use. No special or technical knowledge is required. I run DiskExpress ... to restore my hard disk to optimum performance. [It] is a well-designed product which should be packaged with every hard disk sold. I rate it this month's BEST BUY!"

Recommended by: SuperMac, Jasmine, AST, Peripheral Land, Infosphere, Quark, Blyth Software, and many others.

Unique Features:

- · Only true optimizing software for the Macintosh (not a simple file copy program).
- Unfragments free space minimizes future fragmentation and is required for partitioning software such as Hard Disk Partition and MacServe.
- Unfragments directory speeds access to all files.
- · Maintains all file directory information including file modified dates.
- · Maintains all access privileges on AppleShare file servers.
- · Compacts desktop file without losing file comments.
- Prioritize files minimizes future fragmentation.
- Supports both HFS and MFS.
- Detects and repairs the most common type of directory damage.
- · Can optimize a disk that is 100% full.
- · Can optimize any file reguardless of size.

Bonus Features:

- Examines entire disk for media damage.
- Erases free space to secure deleted files.
- · Compatible with Disk First Aid.
- · Supports the 512, 512E, Plus, XL, SE and II.



Dietician™

You're the best judge of what's *delicious*, let Dietician tell you what's *nutritious*!

New Version 1.31

Puts Megabites of valuable nutrition information at you fingertips. Play nutritional "what if" by food, meal, menu, and recipe. You can:

- Examine 23 nutrient values of 778 foods, expandable to 1500 foods.
- · Compose as many as 5 meals per menu, 7 menus per diet, unlimited diets.
- Search the food data base by 9 FOOD EXCHANGE GROUPS, 7 MEAL NAMES, 9 MEAL COURSES, 24 TYPES OF FOOD and LOW, MEDIUM or HIGH values of CALORIES, CARBOHYDRATE, PROTEIN, FAT, CHOLESTROL, and SODIUM.
- · Print a detailed menu, with nutrient totals by food, meal, and menu.
- Supports the 512, 512E, Plus, XL, SE and II.

Card has immense possibilities, it is a bit like the BASIC interpreters: the programs that use them are useful only if they are simple. HyperCard's full potential will not be realized until script com-

E

pilation is available. THOMAS J. KLEESPIES WESTFORD, MA

E

You might be interested in looking over another HyperCard book, HyperCard Scripting: A HyperTalk Language Guide and Tutorial, by Jeff Stoddard. You can get it from Walking Shadow Press, PO Box 2092, Saratoga, CA 95071. Their phone number is (408) 354-7833. — LK

IT'S TWO, TWO, TWO ???S IN ONE

Well, I've finally got to join the fray over HyperCard. Why, this is the greatest debate since the one about Certs! (You remember — breath mint or candy?) It was Bobker's column in the December '87 issue that pushed me over the line. He ties some themes together around HyperCard that I've been thinking about for a while.

The first one is the lament for the late, great "computer for the rest of us." Bobker's afraid that *HyperCard* will unleash forces that will sweep away the last remnants of The Interface. And whither goeth The Interface, so goeth the Mac. I've been hearing this in one form or another for a while now, even before *HyperCard* appeared on the scene. I even hear complaints that now Macs have slots!

What I think these people are really bemoaning is the fact that the machine is growing up. The Interface has inspired the entire computer field. It's vindicated the visionaries at PARC who believed that this is the way people want to interact with their machines. Now the "other" world is jumping on the bandwagon and, as they do, The Interface is taking its deserved place in the computer mainstream. As it does so, it influences and is influenced by its surroundings. That's change, folks, and it's inevitable.

I'm a relative beginner with the Mac. Maybe I'm a generation removed from the "purity" of The Interface. I don't know, but I still see (and enjoy) The Interface in the newest and most "complex" programs. Even in Word 3.01. Even in HyperCard.

If HyperCard threatens the sanctity of The Interface, then I say: "The king is dead! Long live the king!" For what we get in return is the ability for "the rest of us" to unlock the magic of this machine. I think it's a fair trade.

That said, I agree that we don't want stackware wandering too far afield. But

how far's too far? Certainly we don't want MS-DOS emulations written in HyperTalk!

The other theme I want to touch on is the "What is HyperCard?" question. It's not system software, although sometimes it looks like it. Maybe it's an environment, the way a BASIC or LISP system is an environment.

Then again, maybe it's a breath mint! STEVE LELCHUK MINNEAPOLIS, MN

Did you forget the Less Filling/Tastes Great debate (which, chronologically, falls between the Certs and HyperCard debates)? And, while we don't think it's a breath mint, persistent rumors that it is a dessert topping keep surfacing. — JZ

MORE FAN MAIL

he fatal flaw of the SE fan noise can be solved by opening it up and cutting the yellow wire to the fan. Then drill a hundred small holes into the upper left top of the case just above the power supply, à la the Plus. The fan stays power off and the Mac stays convection cool. For added coolness, pop the accessory panel in the back and use an external hard disk. Apple usually gets things right the second time and this is their first fan.

JOHN BARRY SMITH SAN FRANCISCO, CA

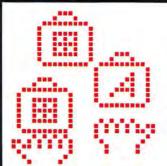
MacUser has neither tested nor endorsed this procedure, which also voids your warranty. - JZ

LICENSED TO SELL

may be the victim of well-intended, but bad advice. I have a need to maintain a simple receipts/disbursements bookkeeping system for a small trust, a small partnership and a small club. It was suggested that I use Dollars & Sense, which I did buy in January, 1987. I reviewed the manual and sample disk, and I don't believe it is well suited for my needs.

My questions are: 1) Is it normally possible to return, or alternatively, possibly legal to sell a registered software package? 2) What moderately priced accounting software could you suggest? THOMAS G. MOSHER SPOKANE, WA

Many software packages are sealed with a label with words to the effect that by breaking the seal, you agree to play by the publisher's rules. The full licensing agreement spells out your rights (although not necessarily in anything resembling English). Often there's a provision stating



ALL NEW GENERATION!

Font/DA Juggler™ Plus

Font/DA Juggler Plus is the ultimate Font/Desk Accessory (DA)/FKey/Sound utility. It greatly extends the power of the Macintosh by giving you access to hundreds of DAs, fonts, FKeys, and sounds simultaneously. These system resources remain in their Font/DA Mover or FKey/Sound Mover™ files and are opened by Font/DA Juggler Plus. There is no need to install them in your System file. Now you can break the Macintosh barrier of 15 DAs, 200 fonts, and 8 FKeys.

Font/DA Juggler *Plus* Features Include:

- Access to hundreds of desk accessories (DAs), fonts, FKeys, and sounds simultaneously.
- No need to install DAs, fonts, FKeys or sounds in the System file.
- 100% MultiFinder compatibility, all features are available.
- Simple installation, just drag Font/DA Juggler Plus into your System folder.
- Online help.
- Opens up to 12 files on multiple volumes, including file and disk servers.
- Automatically reopens files after a restart.
- Compresses fonts to regain an average of almost 40% of the disk space they occupy. Fonts are automatically decompressed as they are used.
- DAs, fonts, FKeys, and sounds in a file can be viewed before or after opening the file.
- A DA list to allow you to open DAs from the keyboard.
- A font list which lets you view all of the current fonts in each of 9 styles.
- An FKey list to allow you to open FKeys from the keyboard by name with no numbering conflicts.
- A sound list which lets you play Macintosh II sounds and select an alert (beep) sound to play in place of the simple beep - even on a Macintosh 512E, Plus, or SE.
- User definable Hot Keys™ which give you access to any Font/DA Juggler Plus function from the the keyboard.
- Includes FKey/Sound Mover™ to copy, rename, renumber, and remove FKeys and sounds.
- Includes Font/DA Utility™ to rename and renumber fonts and DAs.
- Includes Font Resolver[™] to automatically resolve font numbering conflicts.
- Includes over 50 tested public domain DAs, FKeys, fonts, and sounds.
- Works with the Macintosh 512E, Plus, SE, and II.

Special Offer !! Upgrade from Font/DA Juggler 2.0 to Font/DA Juggler Plus for only \$10.00 plus \$3.00 s/h (registered owners of Font/DA Juggler 2.0 only). Upgrade from SUITCASE to Font/DA Juggler Plus and get a \$20.00 credit by sending your SUITCASE master disk with your order and check.

Font/DA Juggler Plus DiskExpress

\$59.95 \$49.95

Dietician

\$94.95

Add \$3 s/h, plus \$2 for COD, plus \$10 outside USA. Texas add 7% sales tax. Sorry, no P.O.s can be accepted for these products



ALSoft, Inc. (713) 353-4090 Dealer Inquiries Invited

P.O. Box 927, Spring, Tx 77383-0927

©1987 ALSoft, Inc.

(All prices subject to change without notice)

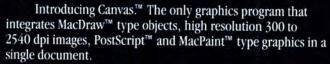


Are you sure you want to throw away the applications "MacDraw", "MacPaint", "SuperPaint", "GraphicWorks" & "FullPaint"?



Eancel

CANVAS[™]



No more switching from one window to another. No more cutting and pasting between different programs. Everything you want in one program, in one document.

Use Canvas[™] for corporate slide presentations, forms, complex graphics, diagrams, newsletters. Any where you want stunning results.

Import graphics from other programs like 4th Dimension,™ Excel™ and More™ to customize charts and graphs.

We've even included a desk accessory version so you can

We've even included a desk accessory version so you can use Canvas™ from within your word processor, spreadsheet, database or desktop publishing program.

Canvas[™] allows you to view and edit in any magnification or reduction from 3.125% to 3,200% for incredibly precise control of your image.

Canvas[™] is packed with features and powerful special effects. Bezier curves. "What you see is what you get" (WYSI-WYG) text editing. 9 feet by 9 feet of *continuous* drawing area. MacrObjects[™] (graphic macros). TIFF support. And much more.

So if you're looking for the best of everything, look into Canvas.™

Visit your local dealer for a complete demonstration of Canvas[™] and other Deneba software including: Coach, the best selling interactive spelling checker desk accessory, Comment, the original Macintosh equivalent of 3M's Post-It notes and the Coach Merriam Webster Thesaurus.

Or call us at 1-800-6CANVAS. In Florida call (305) 594-6965. Canvas™ S195.00. Please circle 84 on reader service card.



7855 N.W. 12th Street, Suite 202 Miami, FL 33126

MacDraw, MacPaint and Macintosh are trademarks of Apple Computer Inc. 4th Dimension is a trademark of Acius, Inc. Excel is a trademark of Microsoft Corp. More is a trademark of Living Videotext, Inc. SuperPaint is a trademark of Silicon Beach Software, Inc. GraphicWorks is a trademark of Mindscape, Inc. FullPaint is a trademark of Ann Arbor Softworks, Inc.

that the software cannot be sold without the express written consent of the publisher. According to Monogram (publisher of Dollars & Sense), they can't provide technical support or updates to the new owner until they receive a signed letter from the seller with the details of the sale. Check the Personal Finance and Business Accounting sections of the "MiniFinders" for other software options. — JZ

SHAREWARE SOLICITATION

would like to challenge all freeware and shareware developers to develop some educational programs that could be used to teach basic living skills to lowlevel readers and the mildly to severely retarded. These would be simple programs, but would contain rewards for right answers, in the form of bells, music, on-screen graphic displays, etc. It is next to impossible to purchase this type of program due to low demand, but there is a definite need for such programs. We have used MacEdge II to some extent with good results. We are looking for variety in shopping, dressing, and other basic life skills instruction in simple game form.

Anyone interested may write to me at Computers Helping Handicapped Cope, 62 Oak Street, East Falmouth, MA 02536. JOHN R. JENKS

EAST FALMOUTH, MA

THE POWER OF BABBLE

Why don't computer magazines take into account the vast majority of computer users who aren't pinball wizards "up" on all the latest computer jargon?

I keep seeing *Excel* described as "the most powerful spreadsheet," which is probably why I return, time and again, to the manual to try to learn it. Right now, I don't need pro techniques or undocumented features. I need to learn the basic program. And not all of that. Just the part that lets me figure batting averages or points-per-game. Am I asking too much? Or am I asking too little?

What the hell is HFS and should I be using it? Screen dump? Sounds messy. Thank goodness my screen has never dumped on me. I guess my basic, or is it ZBasic, gripe is the assumption that everyone knows what everyone else is talking about when they speak computer. I don't speak computer. Does anyone speak English?

BOB WOODBURY WATERVILLE, ME

We sympathize. One option: Grit your teeth and jump into the "techie" stuff (like

How to expand 30Mb of internal storage to 200Mb



The Competition

Only MASS MICRO Systems offers you the POWER 2 EXPAND! for \$489

MASS MICRO Systems drives are designed with YOU and your Mac in mind! Our Exclusive design using 3.5" Winchester SCSI drives allows you to start with from 30Mb to 100Mb, keep both of your original floppies, and STILL expand your system up to 200Mb!

By designing them to sustain shocks 80 times the force of gravity, our drives **keep your Mac portable**! With a lightning fast average access of less than 35ms, low power consumption, and a unique head locking mechanism to automatically store the heads on power down, our drives deliver real value. More than reliable, with a 25,000 hr MTBF (one of the highest in the industry) you can depend on them for a long, long time!

Order Today - get one of the fastest drives available! Includes our 24 hr/day, 7 day/wk Support Hotline, 30 day money back guarantee, and a 1 year warranty. Available now at your Apple Dealer.



Please circle 227 on reader service card.



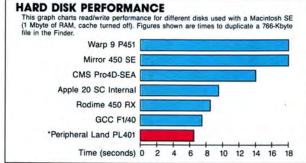
Peripheral Land's Turbo Drives are the world's fastest for the Macintosh . . . but don't take our word for it.

ots of manufacturers claim outstanding speed. But can you believe them? Testing independently, three leading Macintosh magazines found out that none are faster than Peripheral Land's. You can trust them:

MACWORLD: "The Peripheral Land Drive is the hot rod of the group, a good choice if you need top performance right away."

MacUser: "Peripheral Land's hard disk drives are ranked #1 in speed, reliability, storage capacities and aesthetics."

MacWEEK produced this chart demonstrating how Peripheral Land beat out every other manufacturer:



*The PL40i has been replaced by the PL50i since publication. The new drive is even faster!

PLI'S EXTERNAL HARD DISKS — our PL 30, 50, 100, 144 and 230 Turbo Drive Systems — provide a combination of speed, reliability, software and value that has earned them the top spot among SCSI hard drives.

Access time for PLI's external drives is as fast as 18 milliseconds. But our Turbo Software (featuring a disk technology called 1:1 Interleave) makes them even faster — three times as fast as some competitive drives that cost more.

PLI'S INTERNAL HARD DISKS are 30% faster than Apple's own internal drives, and up to 300% faster than other

manufactures.' These 30, 50, 100 and 144MB drives are carried inside the Mac SE or Mac II, saving valuable desk space and providing instant

portability. We also include an external enclosure to house the SE's second floppy drive that is replaced by the hard disk.

Another Peripheral Land exclusive!

With every Peripheral Land drive you get these new software programs absolutely free:

- LaserSpeed[™]— from Think Technologies. A new laser printer spooler with built-in cue management (a \$99 value).
- Back Print[™]— a new Imagewriter spooler from Cortland Computer (a \$59 value).

PLI's Turbo Software also gives you more utilities than any other hard drive: Partitioning with password protection, HFS/MFS support, DA volume mounter, file locator, and a powerful backup utility. They all serve to make your Mac run faster, easier and more effectively.

And the reliability of the units is also unbeatable: Every one of PLI's hard drives is completely tested and burned-in before shipping and carries a full one-year warranty.

Aren't Peripheral Land hard disks your best buy anywhere? We think it's obvious, but don't take our word for it. Ask your dealer. The best ones know us well. They are also familiar with our Infinity™disk drives and our tape backup stystems.

If your dealer doesn't have Peripheral Land products, he'll be glad to call us for you.

You can take our word for that.



PERIPHERAL LAND, INC.

47800 Westinghouse Drive Fremont, CA 94538 (415) 657-2211 TELEX 650305-1733MCI

Dan Cochran's monthly column, "The Help Folder," which discussed screen dumps in February '87). Look up "A Hard Mac Is Good To Find" in the February '86 issue for an explanation of HFS in crystalclear English. And you can pick up a lot by osmosis. — JZ

WHAT ADB HATH PUT ASUNDER

ver since the ADB keyboards were introduced with the new Macs, I have longed to be able to connect a new keyboard to my 512E. Countless salesmen and technicians have told me it can't be done. (I don't believe them.) My hope is that either Apple or an enthusiastic hardware manufacturer will produce a reasonably priced keyboard that looks and feels exactly like one of the ADB keyboards, for the 512 and Plus. It can't be impossible. HELP!

Also, has anyone else noticed that annoying ticking noise that the new 800K drives make? I don't know what it is, but I do know how to stop it. There is a microswitch at the front, right-hand side of the drive. Stick your finger in and press lightly. You will feel a click, the drive will spin, and the noise will stop until the next time you power up.

DAVID BRUCKMANN BURLINGTON, ONTARIO

THEIR PRICES ARE INSANE

he horror stories about Apple dealers are nothing new, but last summer I had the unfortunate experience of visiting the sole Apple dealer in Karachi, Pakistan and that experience has compelled me to write this letter.

Business Computing International is the sole distributor of Apple products in Pakistan. I needed some software and wanted to have my System upgraded. To my surprise they were charging astonishingly low prices for the software. In fact they had a set price per disk regardless of the software. Needless to say I jumped right in and asked for Omnis and Al-Katib. They charged me Rs. 600 for the four disks. For you Wall Street buffs out there, it comes out to be little more than \$33.

Yes, they are selling pirate copies. To top this all off, they are also charging the same amount for the Apple System. And Apple dealers in Karachi blatantly encourage students in America to buy Macs for them at special discount prices.

It is with great regret that I say that if this is the kind of support Apple expects to give to its customers and developers, then my next choice for computers will be anything but Apple.

SYED M. JAFFERY WOOSTER, OH

GAME OF KINGS AND QUEENS



Please circle 39 on reader service card.

Apple Computer, Inc. and Commodore Electronics, Limited respectively,



Text and Graphic Tools for POSTSCRIPT Printers

Hundreds of pure postscript routines that can be mixed and mingled to produce innumerable graphic effects. Print along paths, in circles, spirals, ellipses etc. Transform your present fonts into extended, super-bold, tall, thin or jumbo. Set text from 3 pts. to 720 pts. (10 inches) and beyond in increments of 1/10 th of a point. Transform your present fonts into 30 different styles

Professional routines provide: kerning, scaling, shading, rotating and color separations. Patch directly into page makeup programs, word processors or even MacDraw! Download directly to a Linotronic. A 160 page manual gives detailed instructions on how to do things to create the special effects that you need. Here's just a partial list of what you can do with LaserCraft:

Text Routines

Certificate Circular Cylindrical Diplomas Emblem Elliptical Fitted Jumbo Rotated

Shaded Shadowed

Transformed

As Windows



Graphic Techniques Back Drops

Borders **Brushed-Metal Effects Fountains** Line Art Inverse Laser Output 32 Gray Screens Lines to 10" thick Curves - All kinds Scroll Designs







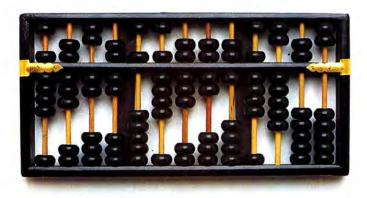


Shirley, MA, 01464

For any Apple Macintosh LaserCraft Pro - \$139.95 Call Free 1 800 835-2246

Please circle 91 on reader service card.

Fast and Easy Business Accounting



Now Available for Macintosh.

Take a simple idea, mix it up with a computer, and people get confused. This usually happens with accounting software.

We think that it's good common sense to combine a complete accounting system with the powerful simplicity of your Macintosh.

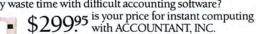
And that's the wisdom behind ACCOUNTANT, INC. ACCOUNTANT, INC. is complete, affordable, and yes, easy to use. It's the professional accounting package that's known for quick start-up and immediate results: providing up-to-the-mount analysis of your finances.

We designed ACCOUNTANT, INC. to serve all of your bookkeeping needs.

You get full-featured Accounts Payable, Accounts Receivable, General Ledger, Invoicing, Purchase Orders,

Cash Disbursements and more Make any entry, and everything gets updated automatically.

Furthermore, ACCOUNTANT, INC. contains a complete Inventory System that competitive programs do not have. Why waste time with difficult accounting software?



Version 2.0 is now available.

Please call or write for more information.

ACCOUNTANT, INC.

Because Common Sense is Timeless.

Please circle 127 on reader service card.

Powerful accounting software for Macintosh 512KE, Plus and SE Minimum configuration 800K, NOT COPY PROTECTED.

Macintosh is a registered trademark of Apple Computer, Inc. Copyright 1987, Softsync, Inc. "Bookkeeping" has three consecutive sets of double letters.

ACCOUNTANT, INC.

SPARE THE MOUSE, SPOIL THE CHIDE

ot December '87 MacUser today. I like the fact MacUser stresses the creative side and the issue is one of the best that way. But I thought copy protection cost vendors a mouse. So without copy protection, Master Tracks Pro would be a 5+ mouser? (Paul Lehrman charges off a ½ mouse in the piece.) I have MTP myself and it's a great program. Yet there's no explanation of why a copy protected application didn't get hit with the penalty. A lapse from MacUser's typically high standards, maybe just an oversight? CRAIG O'DONNELL EVANSTON, IL

Yes, pure editorial oversight. We should have demoused it for the copy protection. And we have already changed the Mini-Finder to reflect the lowered status. See our February issue. —SB

FORGING AHEAD WITH SIGNATURES

disagree with Greg Raven's letter in your December '87 issue stating that the fact that desktop publishing programs do not take signatures into account is no big deal since "we left it up to the printer to determine signatures."

I have been involved with a variety of publications and they have always been concerned with where the color will fall for a variety of reasons, the foremost being economics. For example, on a web press, the cost of the four-color process could be (depending on the size of the print run and for the sake of argument) \$1000 per plate. With eight pages per plate, there is a potential to get eight four-color pages for \$1000. If the color placement is haphazard, those eight fourcolor plates could end up on eight different plates. At \$1000 per plate, that's \$8000. A little extra planning could mean a potential \$7000 savings.

Another potential problem is that heavily unbalanced color pages run head to head on a signature will leave a light color imbalance on the following page. For example, a four-color page saturated in cyan on the right side of the page will sap cyan from the left side of the head lap facing page and leave a light cyan imprint. Many high-speed web presses simply can't refresh from a heavily unbalanced page quickly. This can be avoided if proper color placement is known through careful signature evaluation.

Figuring signatures is a rather simple procedure and could easily be incorporated into any page layout program. MARC DODSON MISSION VIEJO, CA

DUE AS I SAY, NOT AS I DO

am a college student who has just bought a Mac, and with it the October issue of *MacUser*. I found your articles to be lively and entertaining, much like my new SE. However, I would like to say that when you are trying to be cute, get it right. Page 10 sports the "Fine Print Weasel." You spelled due, "do," a mistake many magazines should be above, since it is not really typographical. Perhaps more time should be spent proofreading the issue than writing cute notices.

Dan Harrison ITHACA, NY

Our motto: Do is to others what due is to you. In the immortal words of Gertrude Stein, "A rose is a rows is arose." Or, as Ol' Blue Eyes put it: "Do be due be do." Don't you people have anything better to due? —

JZ

HOLIDAY GIFT IDEAS!

C.ITOH

RAINBOW 31/2"

Ten higest quality 3½" disks in a rainbow assortment packed in a clear plastic storage case with color coded labels.

DOUBLE SIDED/DOUBLE DENSITY

\$2199

SINGLE SIDED/DOUBLE DENSITY

\$1799

Lifetime Warranty

Special RED DS/DD BULK PACKED

1-50 **1.39** 51-99 **1.29** 100+ **1.19**

MOUSE EASE MOUSE PADS

Large Cloth Pad

Available in Grey, Black, Red, Blue and Brown
Polymer Speed Pad

Available in Grey, Tan, Burgundy and Navy

MAC ART CALENDAR



The perfect gift idea for the Mac User this season. Twelve months of spectacular images.

\$999

2 or More \$899 each

SONY 3.5 DSDD

- Duplicator Grade
- Lifetime Warranty
- Available in Blue or Beige

10-50 **1.29** 51-99 **1.19**

100+ 1.09

Teak Accessories

Pamper your computer with the ultra rich look of oiled teak accessories.

31/2" Disk Storage

Store 30 disks 13.99 Store 100 disks 24.99

51/4" Disk Storage Store 70 disks 19.99

 Store 120 disks
 29.99

 80 Column Printer Stand
 31.99

 132 Column
 36.99

RIBBONS

Available in a rainbow pack (black, blue, red, green, brown, purple) or a black six pack

Apple Imagewriter	18.99
Epson LX 80	19.99
Epson MX/FX/RX 70/80	17.99
Epson MX/FX/RX 100	25.99
Okidata 80/82/83/92	7.99
Okidata 84/94	14.99
Okidata 182/192	25.99
Panasoni KXP1090/1092	26.99
4 COLOR RIBBONS NOW	AVAILABLE

Apple Imagewriter 11.99
Okidata 282 14.99
Okidata 293 14.99

Hundreds of ribbons available. Call for your price.

GET ON OUR LIST AND WE'LL GIVE YOU A GIFT. SEND THIS COUPON AND 50¢ AND WE'LL SEND YOU OUR CATALOG AND A 3½" DOUBLE SIDED DISK.

NAME _____

CITY _____ STATE ___ ZIP ___

TELEPHONE _____

MU388

HUBDISK

COMPUTER PRODUCTS INCORPORATED
491 WEST MAIN STREET
AVON, MA 02322

(617) 588-9141

1-800-637-DISK

CALL TOLL FREE

1-800-637-DISK

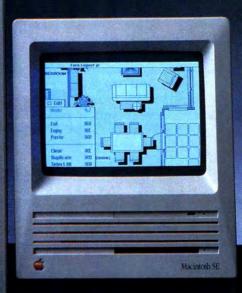
MC, VISA, American Express
Discover, Personal &
Corporate Checks, Fortune 1000
and School, Government Purchase
Orders Accepted

Please circle 73 on reader service card.









radies

FORTHE SOFTWARE THAT'S CC

PageMaker, Microsoft Excel, Illustrator, MultiFinder, and 4th Dimension. The second generation of Macintosh software is here now. The third generation is already beginning to arrive.

Your Macintosh SE alone can't keep pace with the ever increasing sophistication of Macintosh software.

But it can with a productivity system from Radius.

Totally compatible with your Macintosh SE, from its aesthetics to its electronics,

there's a Radius System designed for your particu-

lar working style.

Our Document Processing System consists of a 640 x 864 pixel Radius Full Page Display™ that lets you work on a virtually paper-like 8½"x 11" page.

Then we add our Radius Accelerator 16[™] and quadruple the speed of all of your Macintosh applications from Ready, Set, Go! to HyperCard.

Our Professional Publishing System features a 1152 x 864 pixel Radius Two Page Display.¹ Now you're working right across a double page spread or a full-scale B size drawing.

Then we add our Radius Accelerator 25™ and you're working at six times the speed of a

Macintosh SE.

Which means our Accelerator 25 has you roaring along faster than a Macintosh II.

For Engineering and Design and intensive number crunching, we add something even a bit

more powerful: the MC68881 mathematical coprocessor.

It aces floating point computations at one hundred times the speed of your Macintosh SE. Combined with the immense canvas of the Two Page Display and the

speed of the Accelerator 25, it takes you to the very limits of programs like Excel and MacDraft.

Both Radius Accelerators offer our innovative MagicBus™ which allows you to configure your Macintosh with either our Full Page Display or Two Page Display. So, you can complete your Radius System all at once or add the components one at a time.

To see the most powerful and sophisticated Macintosh software run at its full potential on a Macintosh SE, try a hands-on demonstration of the Radius System that fits your personal working environment.

Call 1-408-434-1010 for a brochure and the name of the authorized Radius dealer nearest you.

And get the most out of your Macintosh SE and its software. Today. And tomorrow.



© 1987 Radius, Inc. Radius, Radius Full Page Display, Radius Two Page Display, Radius Accelerator 16, Radius Accelerator 25, Intelligent Hardware and Magic Bus are trademarks of Radius, Inc.
Microsoft and Excel are registered trademarks of Microsoft Corporation. Illustrator is a trademark of Adobe Systems, Inc. Ready, Set, Go! is a trademark of Manhattan Graphics, Inc. Macintosh, HyperCard, and MultiFinder
are trademarks of Apple Computer, Inc. MacDraft is a registered trademark of Innovative Data Design, Inc. 4th Dimension is a trademark of Acius, Inc. Pagemaker is a registered trademark of Adus Corporation.





EDITED BY LOUISE KOHL



Printers, Inc.

One of the more welcome debuts at the Macworld Expo in San Francisco was Apple's announcement of their new laser printers, a trio of machines varying in power

and price. The IINTX, IINT and IISC (in descending order) should be welcomed by everyone from serious desktop publishers and other high-end users to those of us who just want a personal Laser-Writer that doesn't cost half a year's rent. The two higher-end machines especially will be good news for PostScript aficionados.

The three share some sterling

virtues compared to current LaserWriters: they're lighter, the paper trays are twice as large and the new toner cartridges are promised to last at least 4000 pages rather than 3000. All three also have a SCSI interface for hooking up a hard disk to the printers for font storage.

The IISC is what Apple is calling their entry-level printer. It's a one-user machine (no networking) with 1 megabyte of RAM. In addition to the SCSI interface, through which you can daisychain up to six hard disks, there's an ADB port. It has no resident page description language, so it can take whatever your software is dealing out (except PostScript). Helvetica, Courier, Symbol and Times typefaces in six sizes are bundled with the unit. As of press time, the suggested list price is under \$3000.

Next on the way up to printer heaven is the LaserWriter IINT, with a 68000 microprocessor, 1 megabyte of ROM and 2 megabytes of RAM, built-in AppleTalk for up to 31 users and 35 standard typefaces (the LaserWriter Plus set). The NT is a Postscript printer with Diablo 630 emulation and an RS-232 port, making it accessible to the MS-DOS world. It also has the ADB port, with its potential for expansion. List price for this one is under \$5000.

Sounds good, right? You might be wondering what Apple did for an encore. They did the IINTX. The IINTX runs on a 68020 microprocessor with 2 megabytes of RAM, 1 megabyte of ROM. And if that's not enough, you'll be able to increase up to 12 megabytes of RAM, 2 megabytes of ROM. Apple-Talk is built in (for up to 31 users; more with bridging). The IINTX is a PostScript machine, which works as well for MS-DOS machines as for the Mac - it has an RS-232 port and both Diablo 630 and LaserJet Plus emulation. The bundled fonts are the same as those of the LaserWriter Plus, but there's an expansion slot for a custom ROM card if you need to increase the number of resident fonts. The bottom line with all this is speed; it leaves the LaserWriter Plus in the dust, so to speak. List price as of press time is approximately \$6500.

The good news about this series is that you'll be able to upgrade from one level to another through board swaps. The bad news: So far there's been no word on any tradein policy for owners of older LaserWriters. -LK

Mixed Media

"Kyeptin! I've newwer seen anything like it. It looks like...like a giant...like a giant Excel spreadsheet, Kyeptin."

"Full speed ahead, Mr. Chekhov. Warp factor nine. What do you make of it, Bones?"

"I'm a doctor, not a hacker." "Fascinating."

Imagine the possibilities open to you with TV Producer, a Mac II card that lets you mix broadcastquality video with Mac II output. You can add graphics, text, animation or other images from any application program to any video signal. TV Producer works with standard and professional video equipment, including color cameras, camcorders, video tape recorders and large screen projec-

By selecting which color (or range of colors) on the Mac II display will be transparent to the external video signal, you can create precisely controlled superimposition effects. TV Producer supports local and genlock operation. The composite signal is fully synchronized and editable. NTSC, PAL, RGB and professional broadcast versions of the card are available, with prices ranging from \$599 to \$799. For more information, contact Computer Friends at 14250 NW Science Park Dr., Portland, OR 97229; (503) 626-2291 — JZ.

No Money Down

"Easy credit terms available." That's the catch line of nearly every discount mortgage house around. You've seen their commercials a hundred times on late night TV. Now there's a spreadsheet application that lays out just how easy that credit really is. Loan Qualifier, from Financial Microware, not only calculates what the monthly payments will be on a home mortgage, it also tells you whether you can afford

Loan Qualifier is a spreadsheet template and you'll need Excel, Crunch or Multiplan in order to run the program. Then it is just a matter of typing in the value of the house, the amount of the loan, the interest and how many years it's going to take to pay it off. Loan Qualifier breaks down the overall cost of the loan including taxes, closing costs, escrow fees, pest inspection reports and all the other hidden costs that come about when buying a house. It then tells you the monthly payments and what your minimum monthly income should be in order to get the mortgage.

Loan Qualifier isn't so much aimed at individuals as it is at small real estate companies and it can be customized to reflect local laws and customs. It costs \$99 and is available from Financial Microware, PO Box 40, Cupertino, CA 95015; (408) 733-6705. — BT

Mandelbrot Squared

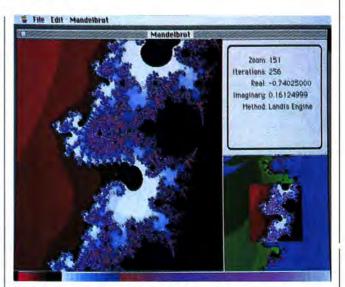
The Mac II's color capability has spawned two products that calculate Mandelbrot sets, a mathematical calculation that results in colorful kaleidoscopic graphics. *MandelColor*; shareware from Sir-Tech, and Mega-Brot, an add-in board from Mega-Graphics, both calculate complex numbers repetitively to produce the often psychedelic images.

Images rendered from a Mandelbrot set calculation usually end up looking like sea creatures or tie-dyed T-shirts from the 60's. When animated in *MandelColor*: the graphic pulsates with an ethereal throbbing of hues that should probably be prohibited to anyone under the age of 18.

While MandelColor may take several hours to produce the desired effect, the MegaBrot takes that time down to between 7 and 20 seconds. Using software that comes with the board, you can zoom in on a Mandelbrot set to enlarge it up to 8 million times.

MandelColor was programmed by Robert Woodhead, who asks that a \$10 fee be given to the Vision Fund, a charity that provides computers to visually handicapped students. The Mega-Brot board is a little more pricey at \$2995.

MandelColor can be downloaded off of CompuServe and the shareware fee should be sent to:



The Vision Fund, c/o Sir-Tech, Charlestown Ogdensburg Mall, Ogdensburg, NY 13669. MegaGraphics can be contacted at 20954 Osborner St., Canoga Park, CA 91304; (818) 407-0571. — *BT*

RUMOR MANAGER

A Silicon Valley company best known for its innovative and award winning utility software (not to mention the flamboyant personality of its CEO) is about to introduce a radically different sort of hard disk. Its YMM series should have a real impact on the way hard disks and their software are designed.

Planning anything lately?
Lots of software companies think so. Not only has Claris recently upgraded and greatly improved *MacProject*, but three other companies are about to jump into the Mac planning software market. Look for one lowend product and two super highend products (one of which is tentatively priced at well over \$1000).

Word processors keep springing up left and write (sorry). Last month there were maybe 10 announced or available. Now there are at least 15. Several large software companies, who have hitherto stayed out of the Mac market, now seem eager to jump in. And since Excel so domi-

nates spreadsheets and the page layout wars are so intense and crowded with quality products, only word processing is left as a major hunting ground where they can make a quick and big dent. Of course they're all betting on FullWrite Professional not doing an Excel. We think that just might be a bad bet.

Mac sales are booming, and lots of publishers are going to join those already in the market. Look for several new introductions of glossy Mac magazines by June (and we don't mean the Mac Business Journal). Also look for one existing publication to give up the ghost. Finally, two others are seriously talking merger (it's planned for late in the year).

Monitor manufacturers and distributors expect the current sales ratios, which heavily favor black and white monitors over color monitors to increase even further in favor of black and white in 1988. But they expect to sell more color monitors than black and white monitors in 1989.

Some new advances in opti-cal drives are about to change the way you store and use most of your data. Samples of small (about the size of an external 800K disk drive) units have been seen around recently. The one we saw had nonremovable media, but we're told that versions with removable media should also be available soon. The technology advance hinges on a new, radically different head control mechanism. It's claimed to greatly speed up data transfer rates, as well as reduce access times to nearly zero. Look for them towards the end of this year at rather high prices (well into 5 figures).

The latest trend in software design is a back-to-basics movement. It's both a reaction to the overloading of features seen in many programs last year and the perception among many developers that the fast road to high profits lies in finding, researching the needs of and filling some particular market niches. Expect several small companies to join Mi-

crosoft (whose *Microsoft Write* was one the first of these products) in fields as diverse as graphics, accounting and, yes, desktop presentations.

Look for several frame grabbers (they take "snapshots" from your TV or from a video tape and convert it to a form that can be massaged in a Mac) soon. The first will come from San Jose. Look for big prices since they're fairly complicated to do for the Mac and the demand is high.

Have you heard any good rumors recently? Can you share them? Does your legal department agree? Will you share them anyway? If we use your rumor we'll send you a token of our appreciation and promise not to use your name. Anonymous contributions also accepted. Contact the Rumor Manager by snail mail care of MacUser, Suite 250, 110 Marsh Drive, Foster City, CA 94404, or, better yet, electronically. Right now we can be reached on MCI Mail (MacUser), Compu-Serve (72257,2671) and AppleLink (X0259).



A new collection of *MacPaint*-compatible clip art called *Christian Images* could prove to be a blessing to anyone producing church newsletters or other reli-

gious publications. The 400K disk includes over 600 religious themes (many of which are nonsectarian). The subject matter covers holidays, Bible stories, church services and events and a host of religious symbols. The \$59.95 disk is available from T/Maker, 1973 Landings Drive, Mountain View, CA 94043; (415) 962-0195. — JZ



MISS NG PIEC S

This month's chart from Robert ART Morgan's Miss ng Piec s newsletter looks at spreadsheet programs. From time to time, we'll

be printing updates to previous charts too. If you'd like to subscribe to the newsletter, the price is \$25 annually. Write to Ramifi-

cations Unlimited, PO Box 619, Dept. MU, Julian, CA 92036.

Let us know what charts you'd like to see in the future and we'll

pass your responses on to Robert. MacUser's new address is 110 Marsh Dr., Suite 250, Foster City, CA 94404. —LK

Spreadsheet UPDATE — What's Missing?

? = feature partially exists or awkwardly implemented. v' = missing feature.	MS Multiplan 1.11	MS Excel 1.04	Bravo MacCalc 1.2b	MS Works 1.1	Lotus Jazz 1a	Data Tailor Trapeze 2.0a
Open Multiple Worksheets	V		V		V	
Split Screen Vertically	V				V	
Split Screen Horizontally					V	
Link Multiple Worksheets	V		V	V	V	
Row/Column References						V
Name Individual Cells						
Name Block of Cells						
Mix Data in Block						V
Select Non-Adjacent Cells	V		?	V	V	?
Vary Font in Each Cell	V	V		V	V	?1
Vary Font Size in Each Cell	V	V		V	V	?1
Vary Font Style in Each Cell	V	V		V	V	?1
Bold/Underline Each Cell	V				V	?1
Borders Around Each Cell	V			V	V	?1
Vary Row Height	V	V		V	V	?1
Total Built-In Functions	49	85	50	54	90	144
Paste Functions In Cells					V	V
Annotation	V	V		V	V	
Graphs	V		V		?	
Graphs in Same Worksheet	V	V	V	V	V	
Point Select Graph Data	V		V	V		V
Import/Display PICT Graphics	V	V	V	V	V	
Find Text					V	V
Find Set	V		V	V	-	
Name & Save Queries	/		V	V		V
Sort Keys	1	3	3	3	3	3
Table Lookup	V		V			
Password Protect Files	V	V		V	V	
Password Protect Cells	V			V	V	
Operate on Arrays	V		V	V	V	V
68881 Math Coproc. Support	V		V	V		
Macros	V		V	V	V	V
Read Text Files			V			
Read SYLK Files						V
Read WKS Files Directly	V			V		
Write Text Files	V		V			
Write SYLK Files					V	V
Write WKS Files Directly	V			V		

¹ Can only vary from block to block, not from cell to cell.

"Band-Aids" for Spreadsheets

- Notes DA from Layered will enable you to annotate Excel, Works, and Jazz.
- 2. MockChart DA can add graphing to MacCalc and Ragtime. If you are using MultiFinder, then Cricket Graph or MS Chart would be helpful. If not, you could do the same thing with Switcher or Servant.
- 3. How do you hide data? Though some let you lock or password data,

none have a "hide" feature. But you can create that by setting the column width to zero and then passwording that cell(s). Another way is to set the font to something larger than the row height (in the case of *MacCalc*).

- 4. Tempo will give macros to those spreadsheets that don't have macros
- 5. Passwording of files can be accomplished by using MacSafe.

EUREKA: The Solver: Solves your mathematical equations instantly



he state-of-the-art answer to any of your scientific, engineering, financial, algebraic, trigonometric, or calculus equations = Eureka*:

The Solver.

Eureka can solve most equations that you're likely to meet. So you can take a mathematical sabbatical.

For anyone who works routinely with equations: in calculus, trigonometry, statistics—any of the most complex mathematics. Solutions synthesized with power and speed. No other software even attempts what it can do.

Eureka represents the thrill of discovery—on command. For scientists, engineers, and mathematicians. For analysts, forecasters, and planners. For professors, researchers, and students.

Most problems that can be expressed as linear or non-linear equations can be solved with Eureka. Eureka also handles maximization and minimization, plots functions, generates reports, and saves you an enormous amount of time.

Eureka instantly solves equations that would've made the ancient Greek mathematicians tear their hair out by the square roots—and it's all yours for *only \$195.00*.

It's easy to use Eureka: The Solver

- 1. Enter your equation into the full-screen editor
- 2. Select the "Solve" command
- 3. Look at the answer
- 4. You're done

You can then tell Eureka to

- Evaluate your solution
- Plot a graph
- Generate a report, then send the output to your printer, or a text or MacWrite file
- Or all of the above

You can key in:

- A formula or formulas
- A series of equations and solve for all variables
- Constraints (like X has to be < or = 2)
- A function to plot
- User-defined functions
- Built-in statistical & financial functions
- Unit conversions
- Maximization and minimization problems
- Interest Rate/Present Value calculations

Eureka: The Solver includes

- A full-screen editor
- Online help
- Calculator desk accessory
- 68881 math coprocessor chip support
- Powerful financial functions
- Built-in and userdefined math and financial functions
- Ability to generate reports complete with plots and lists
- Polynomial finder
- Inequality solutions
- Supports Macintosh II color monitor

Minimum system requirements:

Macintosh with 512K RAM, 128K ROM minimum. One 800K disk drive.

Eureka: The Solver is a trademark of Borland International, Inc. Other brand and product names are trademarks or registered trademarks of their respective holders. Copyright @1987 Borland International BI 11398



For the dealer nearest you or to order by phone

Call (800) 543-7543

Did You Notice?

Has the trip in from the mailbox with the latest *MacUser* been weighing you down recently? We've grown a lot in the last few months (and I'd like to thank each and every one of you for that). As a result, we'll be adding several new staff members in the next few months. We'll be looking for associate editors to edit manuscripts, work with freelancers, and write both feature articles and shorter pieces. We're also looking for an assistant technical editor, a person with lots of hard-

ware and software knowledge. In short, we're looking for *MacUser* editors, people who really love their Macs and can do everything on a magazine. Obviously magazine experience is helpful, but we'll consider anyone. Good English and writing skills are a definite requirement (well, you knew there had to be a catch). These

jobs pay a very competitive salary and, if necessary, we'll relocate you to California.

If you'd like to apply to become one of our happy band, send your resume and clips of published work (if any) to M. Jobs, c/o Mac-User, Suite 250, 110 Marsh Drive, Foster City, CA 94404. No calls; if you call, you don't get the job.

It's All in the Cards

SuperMac's new line of video cards lets users take their pick from a wide array of Mac II-compatible monitors. The three video controller boards announced at Macworld in San Francisco include Revision B of the Spectrum video card (a 1987 Eddy award winner), ColorCard (a low-end board that only drives Apple monitors) and Spectrum/24 (a 24-bit card that can display 1024 X 768 pixels). All the SuperMac boards now support a minimum of 8 bits

of color so they can display at 256 colors.

The Spectrum board should be used with the SuperMac, Apple and other analog RGB monitors (such as the Sonys), as well as with the PGA monitors that dominate the IBM world. Each of the boards (except for the ColorCard) can also produce a true NTSC signal, so you can record what's happening on the screen with any VCR. To do that you'll need an external adapter manufactured

by Julian Systems. And what previously cost upwards of \$5000 is now down to \$599 with the Julian adapter.

The Spectrum/24 card is a 24-bit controller board that can display 1024 X 768 pixels. Since most software doesn't take advantage of the 24-bit color mode, SuperMac also announced plans to release a tool kit that allows developers to modify their software. The Spectrum/24 is expected to sell for under \$3000.

If you get your board before the end of April, you get a free copy of SuperMac's color paint program, PixelPaint, which normally sells for \$495. The ColorCard sells for \$750.

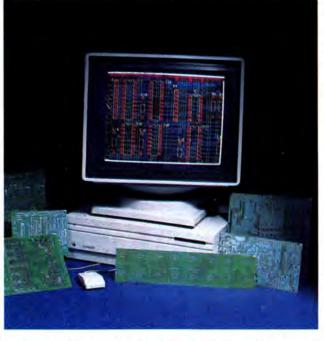
Upgrading to Rev. B of the Spectrum board costs \$99. For further information, contact Super-Mac, 294 North Bernardo Avenue, Mountain View, CA 94043, (415) 964-9694 and Julian Systems, 140 Mason Circle, Suite H, Concord, CA 94520, (415) 686-4400. — BT

Heard on the Circuit

When LucasFilm needed circuit boards for its post-production studio, the engineers used Douglas Electronics' CAD/CAM software to create and test the boards. The customized designs for the state-of-the-art animation studio were then modemed to Douglas for manufacture in just 3 days.

The Douglas Professional CAD/CAM System integrates Layout, Schematic Capture and Autorouting modules to design both analog and digital printed circuit boards. The Layout program allows boards up to 32 inches by 32 inches with an unlimited number of layers. A large library of TTL, CMOS and discrete parts symbols can be accessed using the Schematic Capture software.

Once you design the board you can test its logic to simulate how well the circuits operate. The *Autorouting* function helps you find



any rat's nest of lines and lost connections — a useful task when designing complex boards. The software takes advantage of the Mac II's color, but still runs on older Macs down to the 512KE.

The Professional Layout sys-

tem costs \$1500, and the Schematic Capture and Autorouter are \$700 each. A demo disk is available for \$25. Douglas Electronics can be reached at 718 Marina Blvd., San Leandro, CA 94577; (415) 483-8770. — BT

Window Cleaning

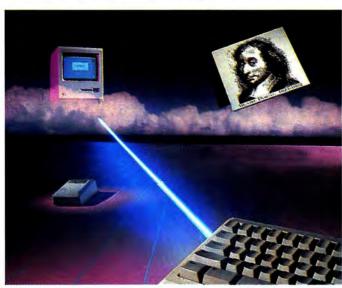
For all those eagerly awaiting the answers to last month's puzzle "Do You Do Windows?" here's how everything matched up.

Screen	Application
A	FullPaint
В	Excel
C	MacWrite
D	MacPaint
E	Word
F	MORE
G	PageMaker
H	MacDraw
i .	Ready, Set, Go!
J	Finder

Oops

The recent review of version 2.0 of *Trapeze* got the mouse rating correct, but fell down on a few other numbers. Data Tailor (the publisher) is now located at 3113 S. University Drive, Suite 500, Fort Worth, TX 76109. Their phone number is (817) 921-6083. And the price is no longer \$149. It's \$395.

Borland's new Turbo Pascal Family makes programming fast and easy



urbo Pascal* code compiles and runs at better than a sizzling 12,000 lines per minute. Its clear, logical design makes it easy to learn and use.

Turbo Pascal is truly compatible with Inside Macintosh, which means that you're on familiar ground—that's why so many Mac users have made it their standard. Best of all, it's only \$99.95!

NEW!

The Turbo Pascal Tutor is just for you!

A companion to Turbo Pascal, Turbo Pascal Tutor quickly teaches you how to program your Mac in Pascal! This interactive tutorial on disk and 700-page manual really show you how—from the basics to advanced programming on the Mac—in Turbo Pascal, MPW Pascal or any version of the language you're using.

You get . . .

- A concise history of Pascal and step-by-step concepts for the beginning programmer.
- A Programmer's Guide taking you through all the specifics you'll need from Pascal program structure to data types, records and files.
- An advanced programming section covering linked lists, stacks, sorting and searching algorithms and more.
- A full guide to using the power of the Macintosh in Pascal, from use of the visual interface to memory management and debugging.
- Source code on disk you can use in your own programs without paying royalties.
 Only \$69.95!

Turbo Pascal Numerical Methods Toolbox™

Numerical analysis at your fingertips! This complete collection of state-of-the-art routines and programs solves all the most common problems in science and engineering. And you're free to include the source code in your own programs. Includes:

- Solutions to equations
- □ Interpolations
- Matrix operations: inversions, determinants and eigenvalues
- Differential equations
- Least squares approximations
- □ Fourier transforms *Only \$99.95!*

NEW!

Turbo Pascal Database Toolbox®

Provides you with the search and sort routines you need for your Pascal database applications.

- Turbo Access locates, inserts or deletes records using B+ trees, and does it fast.
- Turbo Sort uses the Quicksort method to sort data on single items or multiple keys.
- You get source code on disk and a free sample database using the Mac interface that you can tailor to your specific needs.

Only \$99.95!

12,000 lines of good, compiled Pascal code in 60 seconds.

Howard Katz, MACUSER 77

All products require a Macintosh with at least 512K.

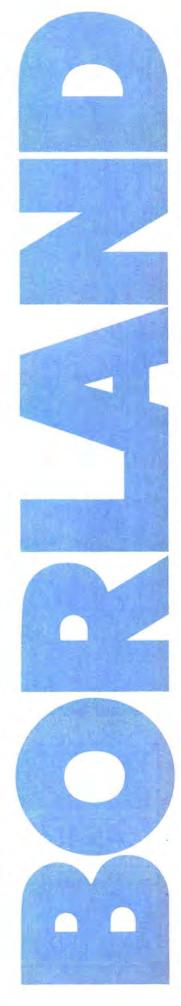
All Borland products are trademarks or registered tradmarks of Borland International, Inc. or Borland/Analytica, Inc. Other brand and product names are trademarks or registered trademarks of their respective holders. Copyright ©1907 Borland International B-11278

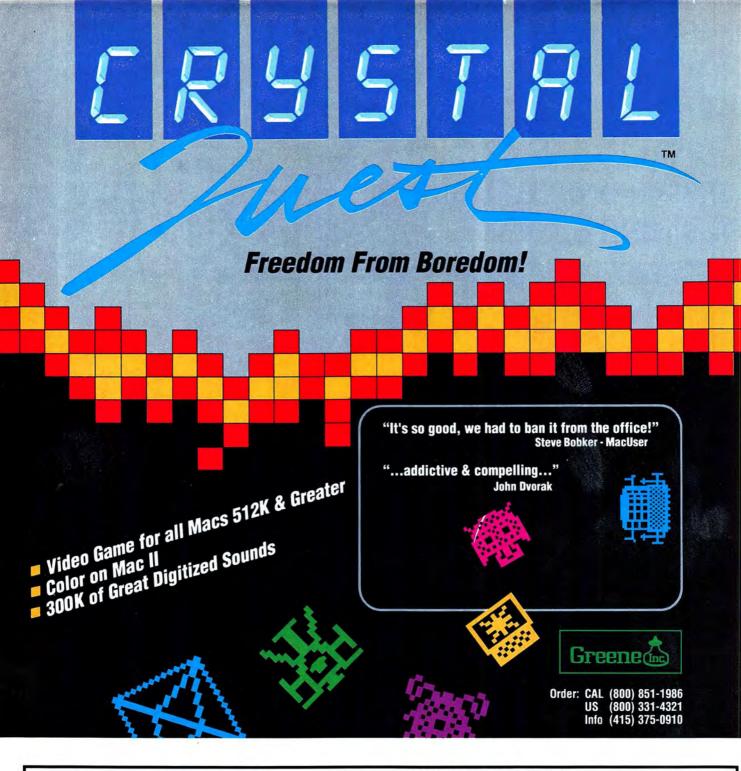


For the dealer nearest you or to order by phone

Call (800) 543-7543

Please circle 9 on reader service card.







Stronger Than Dirt

Is your mouse sluggish and unresponsive? Does slapping it around not help? MacClean, from Absolute of Denmark, can solve the problem. MacClean is a new cleaner designed to remove the dirt and dust that can slow down active mice. It comes in a reusable cartridge, has no moving parts and doesn't require the use of cleaning fluids. It is available through Apple dealers and software distributors at a suggested price of \$12.95, and comes in all the Apple colors — in case you want to match your eyes or decor. For more information, contact Absolute USA at 55 Temple Place, Boston, MA 02111 or (617) 482-0286. — Alane Bowling



A Fitting Story

The search for the perfectly fitting shirt has ended. All you need is a tape measure, a sewing machine, a Mac and Andros SoftWear's SewSoft Bodice. This sewing software uses ten body measurements to create a custom-fitted, full-size pattern that consists of six or more pieces of standard printer paper joined together.

You can put SewSoft Bodice to use in the home or tailor shop. It works with any body type to create blouses, tops or shirts. And for the more adventurous, it will adjust commercial patterns, modify

styles or copy a ready-made garment design. The program promises the perfect fit no matter how many times your bathroom scale goes up and down. Just put in the new measurements and in 15 minutes your new size is created (with no size tag to tattle). It also stores measurement data.

Included in the package is a user's manual with illustrated explanations of how to take the measurements and help for the computer novice. The only thing it's lacking is coverage for the lower part of the body.

So get your pins, needles, Macs and fig leaves ready and call Andros SoftWear at (415) 728-3553. The question to be asked now is: "Where are my pants?" — Dori Harshman

Name A Sews	oft User			
Bust 38.50 Waist 30.00	36.50	HighBust Neck	Cancel OK	
AcrossChest AcrossBack	13.50	14.00	ToBustPoint ToFrontWaist	
AcrossBustPts	8.00	16.50	ToBackWaist	
10		Measure 6 37 38 =		

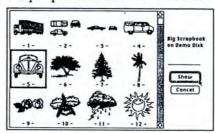
Winner "Best New DA" 1987 MacUser Eddy Awards

A BETTER SCRAPBOOK & SCALING AND CROPPING TOOL!

SmartScrap & The Clipper

SmartScrap: an improved scrapbook accessory. With SmartScrap you

1. Find pictures easily in any scrapbook with a unique pictorial table of contents.



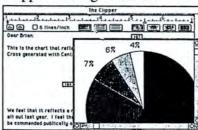
2. See all of your scrapbook pictures with horizontal and vertical scrolling.

3. Select any rectangle of a scrapbook picture for copying.

4. Keep multiple scrapbooks on any disk with any name.

5. Create new scrapbook files with unique names (SmartScrap works with your old scrapbook files). The Clipper: a cropping and scaling tool. With The Clipper you can:

1. Determine the exact dimensions of an area where you are going to paste a picture with The Clipper's sizing window.



2. Reduce, enlarge or trim a picture to the exact dimensions you need (keeping the same proportions) before pasting.

3. See contents of the clipboard even from applications which don't support Show Clipboard.

\$59.95 plus \$4 shipping & handling

Available from leading dealers or direct from: Solutions International P.O. Box 989

Montpelier, Vermont 05602 802 229 9146

Visa, MC, check, COD or PO from D&B rated U.S. Corporations SmartScrap & The Clipper run on any Macintosh 512K or larger, SmartScrap and The Clipper are trademarks of Solutions, Inc.

Please circle 161 on reader service card.

Talk, Talk, Talk

RealTalk, an innovative networking product from CogNetics, falls somewhere between an email system and a file server (It's not really either one, but it's not not, either). RealTalk lets you simultaneously talk, send files and share windows between terminals on an AppleTalk network.

In its Chat mode, Real Talk displays two windows on-screen and a conversation can take place in real-time without sending a message and having to wait for a reply. A transcript is automatically kept of all conversations.

RealTalk's most unique feature is its WindowServing. Any window on one computer can be displayed on another computer. Any changes made by the host are automatically updated on the remote machine. However, this only works in one direction.

Like all good network products, you can send files to another terminal with RealTalk. And you can take it a step further by sending several files in one operation.

RealTalk is accessed as a desk accessory, but also provided is an application that works under MultiFinder. It doesn't require a server and the developer hopes to make it compatible with 512K Macs, although at press time it only worked on 1-megabyte systems. Although marketing plans aren't fixed, RealTalk is expected to come in at \$75 to \$90 a node. CogNetics can be reached at 200 3rd Ave. North, Suite 210, Minneapolis, MN 55401; (612) 338-7741.

Programs, like wine, often improve with age. To get the most out of your programs, you should be using the most recent versions. Here's a list of the current version numbers (as of press time) of many popular programs. The version number of a program can usually be found by running the program and checking the ABOUT ... item at the top of the Apple menu.

Apple System software is spe-

cial. Generally, and unless you have a 128K Mac, you should be running the latest System software. (128K owners should continue to use System 2.0 and Finder 4.1.) Also check the chart in this month's 'Help Folder."

The latest Apple System software is available free from most user groups, national on-line services and local BBSs. The deluxe version (four disks, boxed and

well-documented) can be purchased through Apple dealers for \$49.95. It includes the long-awaited MultiFinder 1.0. As information on MultiFinder compatibility becomes available, we'll keep you informed.

All programs listed here are HFS compatible. The meanings of the codes in the right column are as follows: CP or NCP, copy protected or not; //, programs we have found to be Mac II compatible (not yet a comprehensive list); and S, shareware (try before you buy software). Changes and new listings are shown in bold. Compatibility is sometimes in the mind of the beholder. Programs listed as Mac II compatible may not perform 100 percent of the functions they offer on other Macs, nor do they necessarily take full advantage.

A.A.I.S. Prolog	M1.15	NCP
Acta	2.0	NCP.//
AMS General Ledger	2.08	NCP
AppleShare	1.1	NCP
Aztec C	1.06H.1	NCP
Back to Basics	1.03	NCP
Balance of Power	1.03	CP
Bulk Mailer	3.0	NCP.//
Business Filevision	1.1	NCP
CalendarMaker	3.0	NCP.S
Chart	1.0	CP
Chooser	3.2	NCP
ClickArt Effects	1.01	NCP.//
Clipper	1.01	NCP
ColorChart	1.3	NCP
Colorizer	1.1	NCP.//
ColorMate	2.1	NCP
ColorPrint	2.03	NCP
Comic Book Factory	1.6	NCP.//
Comic Works	1.0	NCP.//
ConcertWare +	4.0	NCP.//
ConcertWare + MIDI	4.0	NCP.//
Copy II Mac	7.0	NCP
Copy II HD	7.0	NCP
Cricket Draw	1.1	NCP.//
Cricket Graph	1.2	NCP.
Deluxe Music Con-	1.4	NUF
struction Set	2.0	CP
DesignScope	1.14	NCP.//
Disk Express	1.10	NCP.
Disk First Aid	1.0.1	NCP
DiskFit		NCP.//
DiskInfo	1.45	NCP.S
Disk Ranger	3.1	NCP
DiskTop	3.0	NCP
Dollars & Sense	1.4	NCP.//
Easy3D	1.01	NCP.
Edit	2.1	NCP
Excel	1.06	NCP.//
ExperCommon Lisp	2.2	NCP,//
ExperCommon Lisp ExperLisp	1.5	NCP//
ExperLisp		
EZ Draft	1.1	NCP
EZ Draft File	2.0	NCP.//
Filemaker Plus	1.05	CP (
Finder (MFS-128K)	2.0	NCP.//
	4.1	NCP
Finder (HFS)	6.0	NCP

Flight Simulator

Fokker Triplane

1.0

FONTastic	2.8	NCP
FONTastic Plus	1.4	NCP, //
Font/DA Mover	3.6	NCP
Fontographer	2.3	CP
Forecast	2.0	NCP.//
Frame Mac	1.1	NCP,//
FreeTerm	2.0	NCP. //
FullPaint	1.0	NCP
Gato	1.42	CP
Glue	1.04	NCP
GraphicWorks	1.13	NCP
Hard Disk 20	1.1	NCP
Hard Disk Utility	2.0	NCP
HD Backup	1.0	NCP,//
HD SC Setup	1.5	NCP,//
HFS Backup	2.01	NCP
HFS Locator Plus	2.0	NCP
Illustrator	1.0	CP/NCP,
ImageWriter	2.6	NCP
ImageWriter, AppleTalk	2.6	NCP
InBox	2.0	NCP
Insight GL	2.0	NCP.//
inTalk	3.0	CP
Jazz	1A	CP
JustText	1.1	NCP
Laser Author	1.3	NCP,//
Laser Prep	5.0	NCP
LaserShare	1.0	NCP
LaserSpeed	1.5	NCP,//
LaserStatus	2.0	NCP
LaserWriter	5.0	NCP
Layout	1.3	NCP,S
Legal Billing	1.72	NCP, //
Legal Billing II	2.39	NCP, //
Lightspeed C	2.01	NCP
Lightspeed Pascal	1.0	NCP
Listen 2.0	2.1	CP.//
Lode Runner	1.0	CP
Mac-3D	2.0	CP
MacASM	1.2	NCP
MacBillboard	4.01	NCP,S
Mac C	5.0	NCP,//
MacCalc	1.2	NCP
Mac Disk Catalog II	2.1.1	NCP
MacDraw	1.9.5	NCP
MacDraft	1.2b	NCP
MacFlow	1.02	NCP
MacGolf	2.0	CP
MacInTalk	1.1	NCP

MacLabeler	2.2	CP	
MacMoney	2.02	NCP	
MacMovies	1.02	NCP	
MacNosy V2	2.8	NCP	
MacPaint	2.0	NCP,//	
MacPalette	1.0	CP	
MacPascal	2.1	CP	
MacProject	1.1	NCP	
MacProof	3.0	NCP	
MacSafe	1.08	NCP.//	
MacServe	2.3	CP.//	
MacSpec	1.3	CP	
MacSpin	1.1	CP	
MacSpool	2.1	NCP	
MacTerminal	2.2	NCP	
MacTools (MFS/HFS)		NCP	
MacWrite	5.0	NCP,//	
Mac Zap	5.0	NCP.//	
MailManager	1.0	CP	
MapMaker	2.0	NCP	
MDS	2.0	NCP	
Measure Test	12.7	CP,S,//	
Megamax C	3.0	NCP	
MicroPhone	1.1	NCP.//	
Micro Planner Plus	5.8b	NCP	
MindWrite	1.1	NCP, //	
miniWriter	1.39	NCPS	
MockPackage+	4.3.4	NCPS	
MORE	1.1C	NCP.//	
MPW	2.0b	NCP	
MS BASIC	3.0	NCP	
MS BASIC Compiler	3.0	NCP	
MS Fortran	2.2	CP	
MS Works	1.1	NCP	
Multiplan	1.1	NCP,//	
MusicWorks	1.1	CP	
myDiskLabeler	2.11	NCP	
Neon	2.0	NCP	
Omnis III Plus	3.26	CP,//	
OverVUE	2.1	NCP,//	
PackIt III	1.3	NCP,S	
PageMaker	2.0a	NCP	
Parameter Manager	1.092	NCP	
Performer	2.2	CP	
PictureBase	1.2	NCP	
Plains and Simple	4.1	NCP,//	
PowerStation	1.1	NCP	

Profit Stalker II

Project Billing

QUED/M	2.04	NCP
Rags to Riches	3.0	CP,//
Ragtime	1.1	CP,//
Ready, Set, Go!	4.0	NCP,//
Record Holder	2.1	NCP
REdit	1.2	NCP
Red Ryder	10.3	NCP
Reflex Plus	1.0	NCP
ResEdit	1.167	NCP.//
Sargon III	1.0	CP
Scoop	1.01	NCP.//
SideKick	2.0	NCP
Silicon Press	1.1	NCP
Slide Show Magician	1.3	CP
Smartcom II	3.0A	NCP.//
SoundCap	4.4	CP
Space Edit	2.0	CP.//
SpellNow	1.0	NCP
Spellswell	2.0	NCP
StatView 512+	1.1	NCP
StatWorks	1.2	NCP.//
Stella	1.3	CP.//
Straight Talk	2.08	NCP.//
Studio Session	1.4	CP
SuperPaint	1.00	NCP.//
Switcher	5.1	NCP
System (MFS-128K)	2.0	NCP
System (HFS)	4.2	NCP
Telescape Pro VT 100	1.3	NCP
Tempo	1.2	NCP
ThinkTank 512	1.3	NCP
Thunder!	1.0.1	NCP
Thunderscan	4.0	NCP
TML Pascal	2.01	NCP
TMON	2.8	NCP
Top Desk	2.3	CP
TOPS	2.0	NCP.//
Turbo Maccountant	2.0	NCP,//
Turbo Pascal	1.1	NCP,//
VersaTerm	3.0	NCP
VersaTerm Pro	2.0	NCP
VideoWorks II	2.0	NCP. //
VIP	2.2	NCP
Widgets	3.0	NCP
Word	3.01	NCP
Write	1.0	NCP.//
WriteNow	1.0	NCP,//
XPress	1.1	CP/NCP./
ZBasic	4.0	NCP
Loasic	4.0	NOP

Drive a Hard bargain



- "You can easily fall in love with the quiet Jasmine drive... (It) ran flawlessly during the review period, with very good performance and no compatibility problems of any kind." - MacWorld, July 1987
- "This drive is a pleasure to use. With a 26 msec average access time, it is one of the fastest drives around... It almost makes you feel young again." Howard Bornstein-The MACazine, October 1987
- "Even though the Jasmine 80 is inexpensive, we could find no compromise in quality or features with this product. ** - InfoWorld, June 29, 1987 (Overall Review Rating: 8.5)
- "The Jasmine Direct Drive 80 is an excellent value, offering not only outstanding price and performance, but an excellent price against the small disk market as well. InfoWorld highly recommends looking at this drive for your Macintosh." - InfoWorld, June 29, 1987







An unbeatable combination of quality, performance and price.

The acclaimed Jasmine Direct Drive 80 is the standard by which all others are judged. Powered by the incredible Quantum 80 MB hard disk drive, it has become one of the most desired Macintosh peripherals ever made. And, like all Jasmine products, a long list of "extras" come along for the ride. For the same performance in a 50 megabyte capacity, be sure to check out the Direct Drive 50, also powered by Quantum.

Remember that Jasmine saves you 40% or more. To order call (415) 621-4339.







Our prices include a Full One Year Warranty. Every drive is shipped with a technical botline number to answer any questions. Direct Drive 50, Direct Drive 80, Jasmine are trademarks of Jasmine Technologies, Inc. Product specifications and prices are subject to change. Prices include 2' cable and PD software. Prices do not include shipping, CA sales tax (6.5%) or special rush bandling, Apple is a registered trademark of, and Macintosh is a trademark licensed to Apple Computer, Inc.

Mac II Compatibility

This Mac II compatibility list was | last updated November '87. The | thing from total bombs to miscompiled by Benjamin Kuo and | designation "N" "may imply any- | placed animation/graphics, ei- cation useless for normal use."

rogram	2	4	or Grays 16	256	Comments	Y=works; N=does not					
1 Macros for Excel	Y	Y	Y	Y		Insight GL	Y	Y	Y	Y	
ta	Ý	Ý	Y	Ÿ		InTalk 3.0	Y	Y	Ý	Y	
	N							Y	Ý		
cient Art of War	N	N	N	N		Laser Author	Y			Y	
ache Strike Mission	N	N	N	N		Laser FX	Y	Y	Y	Y	
pleShare	Y	Y	Y			Leather Goddesses of Phobos	Y	Y	Y	Y	
chon	N	N	N	N		Legal Billing	Y	Y	Y	Y	
Blmages	Y	Y	Y	Y		Legal Billing II	Υ	Y	Υ	Υ	
alance of Power	Υ	Υ	Y	Y		Lightspeed C	Y	Y	Υ	Y	
allyHoo	Y	Y	Υ	Y		Lightspeed Pascal	Y	Y	Y	Y	
gScreen Screen Extender	N	N	N	N		Lode Runner	N	N	N	N	
prrowed Time	N	N	N	N		Mac C	Y	Y	Y	Y	
idge (4.0 & 5.0)	Y	Y	Y	Y		MacCalc	Y	Y	Y	Y	
ılk Mailer	Y	Y	Y	Y		Mac Disk Catalog II	Y	Y	Y	Y	
reaucracy	Y	Y	Y	Y		MacDraw	Y	Y	Y	Y	
nvas	Y	Y	Y	Y		MacDraft	Y	Y	Y	Y	
iro Shootout	v	N	N	N		MacFlow	N	N	N	N	
A.T. (Contact-Activity-	v	Y	Ÿ	Ÿ		MacGolf	N	N	N	N	(Works: golfer in mid-air
acker)						MacinTalk	N	N	N	N	(Works. goner in tind and
nampion Boxing	N	N	N	N		MacInooga	Y	N	N	N	(DO NOT use Seroll
nooser	V	Y	Y	Y		Macinooga	-	N	N	IV	(DO NOT use Scroll
	Ţ	Y							-		bar!)
ickArt Effects	Ţ		Y	Y		MacInUse	Y	Y	Y	Υ	
oach	Y	Y	Y	Y		MacLightning	Υ	Υ	Υ	Y	
olorPrint	N	N	N	N		MacLink Plus	Y	Υ	Y	Υ	All report of the A
omicWorks	Υ	Y	Y	Y		MacMan	Y	N	N	N	(Graphics weird.)
mic Strip Factory	Υ	Y	Y	Υ		MacMoney	Y	Y	Y	Y	The face of the face of
mment	Y	Y	Y	Y		MacMovies	N	N	N	N	
mServe	Y	Y	Y	Y		MacPaint	Y	Y	Y	Y	(Version 2.0)
ncertWare	Y	Y	Y	Y		MacProject	Y	Ý	Y	Ÿ	
oncertWare MIDI	Y	Y	Y	Y		MacProof 3.0	Y	Ý	Ý	Ÿ	
Disable MIDI, no player.)				,		MacRaquetball	v	Ý	Y	Ý	
opy II Mac	Y	Y	Υ	Y		MacServe	v	Ý	Ý	Ý	
ppy II Hard Disk	v	Y	Y	Ý		MacStronomy	Y			Ý	
ricket Draw (v. 1.2)	ċ	Y		Y				Y	Y		
	V		Y	V		MacTerminal	Y	Y	Y	Y	
icket Graph	Y	Y	Y	T		MacTools	Y	Y	Y	Y	
utThroats	Y	Y	Y	Y	at a second at the second	MacWrite	Y	Y	Y	Y	
rk Castle	N	N	N	N	(Not enough high bits.)	Mac Zap Copier	N	N	N	N	
eja Vu	Y	Y	Υ	Υ	The State of the S	MapMaker	Y	Y	Y	Y	
elux Mountain Construction	N	N	N	N	(Fractals become	MarketPro	Y	Y	Y	Y	
et .					inaccurate.)	MazeWars	N	N	N	N	
esignScope	Y	Y	Y	Y		McMax	Y	Y	Y	Y	
mensions CAD	Y	Y	Y	Y		Measure Test	Y	Ÿ	Y	Y	
nner At Eight	Y	Y	Y	Y		MergeWrite	Y	Y	Y	Ý	
sk Express	Y	Y	Y	Y		MGM CAD	Y	Y	Y	Y	
sk First Aid	V	Y	Y	V		Microphone	v	Y	Y	Ý	
skFit	v	Y	Y	v		MindWrite	v	Y	Y	Y	
iskInfo	Ü	Y	Y	v		miniWriter	Ţ				
	, v	Y		V			Y	Y	Υ	Y	
sk Ranger	Ţ		Y	Y		MockPackage	Υ	Y	Y	Y	
skTop	Y	Y	Υ	Y		Mouse Stampede	Υ	Y	Y	Y	
ollars & \$ense	Y	Υ	Υ	Y		MORE	Y	Y	Y	Y	
ectronic Checkbook	N	N	N	N		MPW	Y	Y	Y	Y	
nchanted Scepters	Υ	Y	Υ	Y		MS BASIC	Y	Y	Y	Y	
perLisp	Y	Y	Υ	Y		MS BASIC Compiler	Y	Y	Y	Y	
Z Draft	Y	Y	Y	Y		MS Excel 1.04	Y	N	Y	Y	
ctFinder	Y	Y	Y	Y		MS Word 3.0	v	Ÿ	Ý	Ÿ	
edit Plus	v	Y	Y	v		MS Works	N	N		N	(Patch amilable)
rrari Grand Prix	N	N	N	N		MultiFinder	Y	Y	N		(Patch available.)
leMaker	V	Y	Y	V					Y	Y	(440) - 44
leMaker Plus	V			v		Music Mouse	N	N	N	N	(MIDI addresses
	· ·	Y	Y	Y		B. 11 . 1					incompatible.)
ndswell	Ĭ.	Y	Y	Y		myDiskLabeler	N	N	N	N	
ight Simulator	N	N	N	N		Nord & Bert	Y	Y	Y	Y	
uent Fonts (v. 1 & 2)	Υ	Y	Υ	Y		Ogre	N	N	N	N	
kker Triplane	N	N	N	N		One on One	N	N	N	N	
NTastic Plus	Y	Y	Υ	Y	THE CONTRACTOR OF THE PARTY OF	OrbQuest	N	N	N	N	
nt/DA Mover	Y	Y	Y	Y		Omnis III Plus	Y	Y	Y	Y	
ntEdit	Y	Y	Y	Y		Orbiter	Ý	Y	Y	Y	(Way too fast.)
ntsie	Y	Y	Y	Y		OverVUE	Y	Y	Y	Y	(Fraj 100 last.)
recast	Y	Y		Y		Packit III	Y			Y	
ame Mac	v	Y	γ.	Y			Y	Y	Y	Y	
eeterm	v	Y	Y	v		PageMaker Potton us Pommel			Y		A STATE OF THE STA
llPaint	v	N		N		Patton vs. Rommel	Y	Y	1	Y	
ato	N		N			Performer	N	N	N	N	Contractor and the
	N	N	N	N	Allaska hut	Pinball Construction Set	Υ	N	N	N	(Too fast, screen image
emstone Warrior	N	N	N	N	(Works, but unuseable			-0		24	terrible.)
					graphics.)	Pixel Paint	N	N	Y	Y	(Beta-word of mouth.)
Je	Y	Y	Y	Y		Plains and Simple	Y	Y	Y	Y	The second second
ayPaint	Y	N	N	N		Post-it	Y	Y	Y	Y	
idMaker	Υ	Y	Υ	Y		PowerStation	Υ	Y	Y	Y	
idWars	N	N	N	N	(Crashes.)	PRAM 5.0	Y	Y	Y	Ÿ	
ild Of Thieves	N	N	N	N	(Bad screen placement.)	Professional Bibliography	Ý	Y	Ÿ	Y	
rdball	Y	N	N	N	(Works, no sound.)	Project Billing	Ý	Y	Y	Y	
rd Disk 20	Y	Ÿ	Y	Y	,	Psion Chess	Ý	Y	Y	Y	
rd Disk Utility	v	Y	Y	Ý				Y	V	Y	
rrier Strike Mission	N	N	N	N		Pyro!	Y		Y		
	V			V		QuicKeys	Y	Y	Y	Y	
lix, Double	Y	Y	Y	Y		Q&D Utilities v.1	Y	Y	Y	Y	
S BackUp	Y	Y	Y	Y		Q&D Utilities v.2	Y	Y	Y	Y	
tchhiker's Guide	Υ	Y	Y	Y		Radical Castle	Y	Y	Y	Y	
marCard	Y	Y	Y	Y		Rags to Riches	Y	Y	Y	Y	
perCard			Y	Y			Y	Y	Ÿ	Y	
ustrator	Y	Y	1	1		Ragtime			*	Y	

Record Holder Plus	Y	Y	Υ	Y		SuperPaint	Y	N	N	N	
ted Ryder 9.4	N	N	N	N	(Cannot dl; bad placement of graphics.)	SuperPlay	Y	Y	Y	Y	(Best program for digitized sound.)
led Ryder 10.0	Y	Y	Y	Y	The second of the second	SuperSpool	Y	Y	Y	Y	
lesEdit	Y	Y	Y	Y		Switcher	N	N	N	N	
Resume Writer	Y	Y	Y	Y		Temple of Aphsai	N	N	N	N	
Roque	Ý	Ý	Ý	Y		The Pawn	N	N	N	N	
Sargon III	v	Ý	Ý	v		Thunder	v	v	Y	Y	(May not work with
Scarbs of Ra	Y	Ÿ	Y	Ý		munuci		- 1			MultiFinder.)
Sentinel	Y	Υ	Y	Y		TML Pascal	Y	Y	Y	Y	
Shadowgate	Y	Y	Y	Y		TMON	Y	Y	Y	Y	
Shanghai	Y	Y	Y	Y	(Works, but hangs	Turbo Download	Y	Y	Y	Y	
					computer after Quit.)	Turbo Maccountant	Y	Y	Y	Y	
SideKick	N	N	N	N	Table and adding	Turbo Pascal	Ý	Y	Y	Y	(Bombs occasionally
Skyfox	N	N	N	N							after run.)
SmartAlarms	Y	Y	Y	Y		Typing Made Easy	Y	Y	Y	Y	
Smartcom II	Y	Y	Y	Y		Ultima II	N	N	N	N	
Smash Hit Raquetball	N	N	N	N		Ultima III	N	N	N	N	
Smash Hit Raquetball II	Y	Y	Y	Y		Uninvited	Y	Y	Y	Y	
SmoothTalker	N		N	N		VersaTerm	Y	Y	Y	Y	
SoundCap	Y	N	Y	Y	(Usable, inaccurate	VersaTerm Pro	Ý	Y	Y	Y	
oundoup					graphics.)	VideoWorks	N	N	N	N	
Spellswell	V	Y	Y	V	grapinos.)	VideoWorks II	v	v	Y	v	
Starleague Baseball	N		N	N		Videx FunPack	N	N	N	N	
StatView 512	v	N	N	Ÿ		VIP	v	V	Ÿ	v	
StatWorks	v	Y	v	v		Winter Games	N	N		N	
Stella	v	Ý	Ý	Ý		Wizardry	N	N	N N	N	
Stepping Out	M	N	N	N		Word Finder DA	Ÿ	V	Y	Y	
Straight Talk	V	Y	Y	Y		Word Tools	v	v	Y	Y	
Strategic Conquest 1.0	v	Y	Ý	Ý	(Old version; non-	WorldBuilder	V	V	Y	Y	(All WorldBuilder games
Strategic Conquest 1.0		1	1	1	modem; sound.)	vvoridbuilder	1	1	1	,	work.)
Studio Session	N	N	N	N		WriteNow	Y	Y	Y	Y	(Underline does not
StuntCopter	Y	Y	Y	Y		100					work properly.)
Sub Battle Simulator	N	N	N	N		XPress	Y	Y	Y	Y	
Suitcase	Y	Y	Y	Y		ZBasic	Y	Y	Y	Y	
SuperLaserSpool	Y	Y	Y	· v		Zork I, II, III	Y	V	V	Y	

LASER PRINTER LABELS!

Avery. The world's first supplier of labels specifically designed for **desktop laser printers**. Available wherever computer and office supplies are sold. Ask for product numbers 5260, 5261 and 5262. Call (800) 535-3232, X30 for the nearest dealer in your area.



Please circle 42 on reader service card.

Sequoia mb

SOFTWARE

SUFTWARE "	2
Alteve	-
Fontographer	\$235.00
Berkeley System Design Stepping Out	58.00
CE Software	
Calendar Maker	32.00
Centram Systems West Tops	
Chang Labe	,
Rags to Riches—	
AP AR GI	120.00
AP, AR, GL Business 3-Pak (AP, AR, GL)	290.00
C.A.T.	235.00
Mac C/Mac C Toolkit (V 5.0)	215.00
Cricket Software	
Cricket Draw	
Cricket Graph	
Statworks	75.00
DataViz	
MacLink Plus w/Cable	134.00
Deneba Software	
Canvas	135.00
Forethought	
PowerPoint	Call
Image Club Graphics	and the contract of the contra
	Call
Eight Set #1, #2, #3, #4	Call
Ready, Set, Go! Three	007.00
Heady, Set, Go! Three	235.00
Ready, Set, Go! Four	Call
Macromind	7.00
VideoWorks II	119.00
Microsoft	
Excel	225.00
Flight Simulator	32.00
Word 3.01	235.00
Works	185.00
Odesta	
Double Helix II	Call
Silicon Beach Software	Gan
Dark Castle	28.00
SuperPaint	
SuperMac Software	
SuperSpool	39.00
SuperLaserSpool	95.00
Sohe resershon	93.00

Sequoia mb

P.O. Box 2526 Pasadena, California 91102

Orders: (800) 648-7171 Customer Service: (818) 799-5473

HARDWARE

DIGITIZERS
Thunderware (90 days)
ThunderScan 4.0 195.00
DISK DRIVES/TAPE BACKUP
AST Research (6 months)
AST-Fast-20 (20mb SCSI Hard Disk) 855.00 AST-2000 (20mb SCSI HD/20mb TB) 1385.00
CMS Enhancements (1 year)
MacStack SD20 (20mb SCSI Hard Disk) 575.00 MacStack SD43 (40mb SCSI Hard Disk) Call
800K External Disk Drive
lomega (1 year)
Bernoulli Box
20 + 20 Dual SCSI Drive 1849.00
Mirror Technologies (1 year)
Magnum Book External Disk Drive Call
Magnet 30X (30mb SCSI Hard Disk) 795.00 Magnet 40X (40mb SCSI Hard Disk) 1075.00
Personal Computer Peripherals (2 years) MacBottom HD21 (21mb SCSI Hard Disk) . Call
MODEMS
Anchor Automation (2 years)
Signalman Express 1200
Signalman Lightning 2400 285.00
Micro Connectors (Cables)
Macintosh to Hayes
Macintosh Plus, SE, II to Hayes 10.00
U.S. Robotics
Courier 1200
Courier 2400
SURGE PROTECTORS
PTI DataShield S85
DataShield S100
DISKETTES
Centech
3½" DS/DD (Box of 10)
Sony
3½" DS/DD (Box of 10)

SOFTWARE RENTALS

Evaluate software under our rental program, Call for prices.

Prices and availability subject to change. COD's accepted *Freight charges on hardware returns will be paid by us.

HOURS (PST) Mon-Fri: 6am-9pm Sat-Sun: 9am-6pm

Please circle 199 on reader service card.

Report From the Trenches

November 1987, NEW YORK, NY — MacFair made its debut last fall — struggling, not always successfully, to establish itself as the premiere New York City Macintosh convention. Although Mac-Fair was aimed at corporate users, it failed to attract the major corporate player, Apple. Set on the 55th Street Pier on the Hudson River, one attendee remarked that Apple's absence made it a "guerrilla convention."

Though the Big Apple didn't attract Apple Computer, 80 companies showed up to display their wares. Among them were Solutions International, the people

who brought you SmartScrap & The Clipper. They introduced The Curator; a graphics data base that works as a desk accessory. While major league companies like Aldus were represented, their booth was little more than a bare table with a lone Mac demonstrating PageMaker 2.0.

Local companies made the biggest showing. And some had products that were just plain bizarre. Business Technology Manufacturing showed how you could gut the motherboard from your Mac and put it into a box that looks like it came from a Taiwanese IBM PC clone manufacturer. Whether this was camouflage or just a sadistic desire to mutilate the Mac remains unclear.

The promoters estimated that the struggling MacFair attracted a crowd of 10,000 Macintosh users. While not all of them went home pleased, they at least rubbed

BUG OF THE MONTH

This month's bug involves Apple's *Finder* and was discovered by Morley Chalmers of Don Mills, Ontario. Unfortunately, it cost his firm the loss of a lot of data to discover this interface flaw.

When you copy one disk to another by dragging one icon onto another, you expect that all the files on the first disk are copied onto the second disk. Indeed, the warning dialog box says just that. That is *not* what happens, however. All the files actually residing in the disk window are copied. But

any files that you might have positioned on the desktop (for quicker access) are left behind. There's no warning that this is happening and there's no way to see what happened other than to remove the first disk and check the copy. New and naive users can easily fail to ensure that all files have been copied, putting their faith in the assurances of the dialog box.

Apple Canada has acknowledged the problem and said that they, too, have lost data to it. Further, it is their opinion that the fix

involves no more than three lines of code.

The Finder must simply check the desktop when copying. It does do that when you drag one hard disk icon onto another. In that case, all the files on the original disk go into the folder established on the target hard disk. And copying from a floppy to a hard disk also works if there are loose files on the desktop. It's only when copying from a floppy to a floppy that you risk leaving valuable material behind. This problem occurs

with all Finders, from the oldest to the newest.

We've sent Mr. Chalmers our bug-finder reward of \$25. If we select and publish your bug, we'll pay you \$25, too. Send your bugs, well-wrapped, to Bugsy, c/o Mac-User, 110 Marsh Drive, Suite 250, Foster City, CA 94404. Be sure to include all the version numbers of the application and your System software and tell us if you have any unusual DAs or other programs installed, so we can recreate your bug. — H. D. Plant

It's Simply been worth waiting for

Some time ago we told our development team to create a full-featured small business accounting program for the MacintoshTM.

We told them that all the functions and features a small business would require had to be fully integrated under a single icon.

To ensure it built on our tradition of comfortable software, it had to qualify with our time-tested telephone support group, integrate smoothly with our payroll update service, and utilize our complete line of business forms.

Eighteen months later they gave us Simply Accounting™. We think the wait was worth it. Why not drop by your nearest Apple dealer and see what you think.

bedford

making software comfortable™

Bedford Software Corp. 15311 N.E. 90th Street Redmond, WA 98052 (206) 883-0074 shoulders with disembarking names were not yet finalized at ocean liner passengers at the 55th Street Pier.

Another MacFair is planned for November '88. Will Apple show up next time around? MacFair organizer, Victor Harwood, says "I can't imagine anyone wanting to ignore New York as a marketplace." But considering the difficulty of hailing a taxi in the area - known locally as Hell's Kitchen - I can see why people might shy away. -BT

Sound Off

MacRecorder is an inexpensive (list price \$199) hardware/software combination that may open the door for adding digitized sound to Mac applications and documents the way ThunderScan opened the door for scanned graphics. The hardware, a mousesized box that plugs into your Mac, includes a built-in microphone, a volume control and jacks for an external microphone or line input.

Two software packages (their

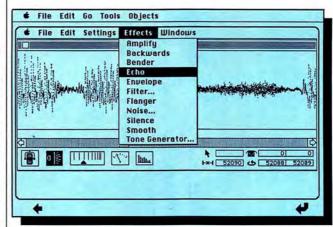
press time) are part of the MacRecorder package. One lets you attach sounds to HyperCard stacks, making it simple to develop interactive audio/video presentations, training materials, and so on. A more sophisticated program lets you mix and edit your sounds with cut, copy and PASTE commands as well as adding special effects such as echoing, envelope shaping, looping and translating various sound file formats (for example, system resource sounds, instrument sounds for programs like Studio Session and MIDI sampler files).

You can record in stereo (if you buy two MacRecorders). Sounds can be sampled at rates up to 22 KHz. An 8:1 compression option and lower sampling rates are also available if saving memory is more important than high fidelity. Farallon Computing, the manufacturer, is working with several software publishers to bundle MacRecorder with their applications. At least one MacUser editor

is known to talk frequently (and vehemently) to her Mac ("They're dialog boxes, aren't they? Well, it takes two to dialog"); future generations of software may talk back ("Your spreadsheet is ajar"). Contact Farallon at 2150 Kittredge Street, Berkeley, CA 94704; (415) 849-2331. — JZ

Free for the Asking

There may not be any such thing as a free lunch, but there does seem to be free software from time to time. This time it's Layered with an offer of a free Accounts Payable module for anyone who bought Insight between October 1 and December 31, 1987. This offer is made through participating dealers and is good until the end of March '88. For information on participating dealers in your area, call Layered at (617) 242-7700. - LK



General Ledger

- · entire fiscal year available for reports
- · user definable chart of accounts
- · produces full audit trail

Payables/Receivables

- uses open invoice method
- · prints checks, invoices and statements
- · user defined aging periods

Payroll

- automatic federal and state deductions
- accumulates QTD, YTD, W-2, 940 and 941 information

Inventory

- · fully integrated with payables and receivables
- · uses average weighted cost method
- · handles adjustments and transfers

Jobcost

- distributes revenue or expense to projects or profit centers

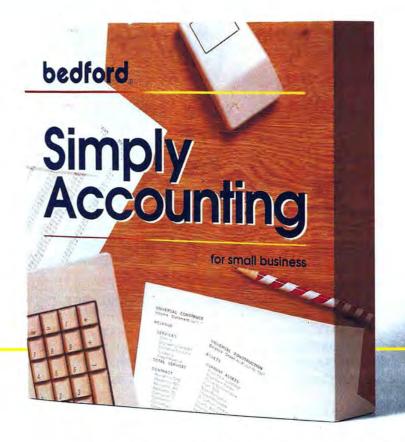
 • paycheck distribution includes the
- company's portion of FICA, SUTA and Disability Insurance

Requirements

 Apple® Macintosh™ computer with one megabyte of memory, 800K on-line storage and 128K ROM

Standard Features

- Six fully integrated functions
 Reports can be displayed, printed or exported
- Not copy protected



Anything These Can Do,



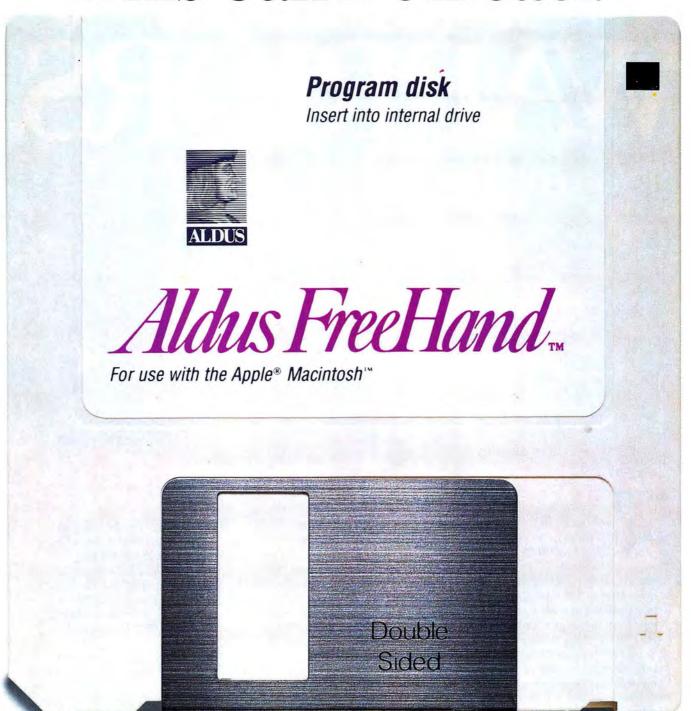
The time has come to replace all your old drawing tools. Because now there's a new, more powerful way to draw with your computer. It's called Aldus FreeHand.™ And it's the only drawing tool anyone with a Macintosh® really needs.

It combines the flexibility of freehand drawing with the precision and special effects of the best com-

puter drawing programs. So no matter what your level of artistic skill, it can help your work look more professional.

And because Aldus FreeHand is based on PostScript,® the language of desktop publishing, your output will look even sharper than the image on your screen.

This Can Do Better.



Aldus FreeHand supports full-color display, spot color and process color separations. It also gives you the most flexible editing capabilities and advanced text handling of any graphics software you can buy.

So call 1-800-33-ALDUS for a free self-running demo or visit your authorized Aldus dealer today and ask to see the state-of-the-art, art program for yourself.

It may be the last art supply you'll ever need to buy.



411 First Avenue South, Seattle, WA 98104 (206) 622-5500 © 1988 Aldus Corporation. The following are registered and unregistered trademarks of the companies listed: Aldus FreeHand, Aldus, Aldus Corporation: Macintosh, Apple Computer, Inc.; PostScript, Adobe Systems Inc.

Please circle 25 on reader service card.

NODE NODES INSTALLED WARRING TOO,000 NODES INSTALLED WARRING TOO.



or many people, using their Local Area
Network is like a journey across 500 miles of
bad desert, with strange, unforeseen forces
of destruction lurking behind every turn.
Until now that is.

Because now there's TOPS, a revolutionary departure in LAN design. TOPS fully arms each node with local user control of information, and frees you from the grips of costly central file servers—and even more costly network administration personnel.

TOPS' unique design gives users completely transparent access to files anywhere from any operating system on any computer—anywhere in the network. And TOPS' modular design supports new operating systems as they become available. Users become believers, because TOPS is so easy to operate. All its commands are totally intuitive.

TOPS is also easy to install and support, and there's no downtime necessary when adding new users. You just plug them in. And because there's no central file server you avoid data crashes and bottlenecks. Your LAN will be stronger than ever, and faster too, because users communicate directly with each other.

Reinforcements!

TOPS Version 2.0 does everything the original does, then adds a few extras all its own. Like automatic publishing and mounting of folders and volumes. Access to locally attached PC printers by other networked PC users. Compatibility with Apple Filing Protocol, and FlashTalk™ speed (it's three times faster than AppleTalk in PC to PC communications). Translation of PC files to Mac format and vice versa. And a lot more.

NOW OVER

And price? No need to worry, because it won't put you into deficit spending. TOPS is just \$189 per node for Macintoshes and PCs.

So call 800-222-TOPS (US), 800-445-TOPS (CA), for a free Node Warrior button and more information. It'll tip the balance of power in your direction.

TOPS°

A Sun Microsystems Company 2560 Ninth Street, Berkeley, CA 94710

Registered trademark: TOPS, Sun Microsystems, Inc. Trademarks: FlashTalk, Sun Microsystems, Inc; AppleTalk, Macintosh, Apple Computer, Inc.

Please circle 204 on reader service card.



by Robert R. Wiggins

On the Bleeding Edge

en years ago there were no microcomputers in the business community. None. Zero. Zip. Then in the late 1970's some brave souls began carrying in their Apple IIs from home, but the microcomputer was looked at as an oddity that didn't really have a place in business. Then IBM "legitimized" the industry in 1980 with the introduction of the PC and the business world scrambled to get the promised productivity increases. Four years ago the Macintosh bowed and was looked down at as a "toy" by the business market. Then came the Laser-Writer, Mac Plus and PageMaker, and the Mac started moving into art departments and creeping into other departments and offices. Last year came the Macintosh II, which made the Mac a real business machine, even a workstation, in the eyes of business, and the productivity wave washed onward. But it still wasn't enough. The double-digit productivity gains and rapidly declining hardware prices weren't enough. Businesses wanted more.

The first "multi" businesses clamored for was multi-user. Companies were networking their PCs and Macs, and they wanted to share data. File servers were created to fill this need. There were software solutions and hardware solutions and mixed solutions. Even Apple joined in with the *AppleShare* file server system, and later an EtherNet card and other add-ons for the Mac II. And application programs began appearing that were multi-user, like 4th Dimension.

But this still wasn't enough. The wave of progress washed onward as business users began demanding multitasking. It wasn't enough to share data and programs; they wanted to do more than one thing at the same time. So IBM and Apple went back into the labs and came out with two wildly different approaches to the problem. IBM came up with a whole new operating system. To reap the benefits of multitasking, users must buy this new OS for several hundred dollars, then buy new versions of the programs they use (assuming the companies who pub-

lish them are rewriting them for OS/2).

Apple chose a different tack, and modified their existing operating system by grafting on *MultiFinder*, an intricate operation involving changes to the *System* file and *Finder* as well as new files. *Multi-Finder* comes free with all new Macs, and is available for \$49 for older ones. And, most important, most existing Mac programs run unchanged (although many are being modified to take better advantage of *MultiFinder*). But for better or worse, multitasking is taking the business world by storm.

There is a problem, however, that most business users are overlooking in their multi mania. Networking and multitasking are on what's called the "leading edge" of technology. Many of the products now being offered were un-

There is psychology at work here. Macintosh users, especially in business, are "early adopters" of technology. The very reason the Macintosh became a success was the willingness of these people to buy into a new technology. Many business users had to fight tooth and nail, or use guerilla tactics, to get the Mac into the office in the first place. So when the Mac can provide networking at often less than half the cost for PC networking, or provide multitasking sooner and easier than the IBM solution, it's only natural that these early adopters want to use these capabilities, not only for themselves but to rub their colleagues' noses in it. The problem lies in reconciling the early adopter attitude with the importance of stability to the business.

The bottom line is that the Macintosh



dreamed of only a few years ago. And there is a reason that the leading edge is often called the "bleeding edge:" the pioneer users of new technology are often battered and bloody by the time the technology stabilizes.

Most data processing centers wait from a few months to a year before moving to a new CPU or a new mainframe operating system, to let others discover all the problems and pitfalls. But these same organizations charge wildly ahead networking their microcomputers and upgrading their operating systems in pursuit of multitasking.

is in businesses to enhance productivity, and the leading edge technologies look very attractive in this context. But these technologies bring instability, which is anathema to business. The solution to this dilemma, as is so often the case, lies in simple common sense: be careful and thorough.

When looking at networking, for instance, make sure that the ends justify the pains that will be encountered on the way. Is it really necessary, or are you just networking for its own sake? Will the productivity gains outweigh the potential losses caused by network problems

■ MacProducts USA ■ 1-800-MAC-DISK

SOFTWARE

HARDWARE MacCustomer

Mac	Customer	
	Price*	Price
Adobe Illustrator	311.85	369.00
Beyond Dark Castle	call	call
Canvas	106.47	139.00
Cricket Graph	167.96	192.00
Dbase Mac	288.75	375.00
Falcon	27.25	37.00
Image Studio	262.50	379.00
Lightspeed C	94.19	125.00
Mac3D	72.45	89.00
MacGolf	28.35	37.00
MacInTax	55.09	66.00
MacMoney	31.48	39.00
MacLink Plus	107.25	142.00
Microsoft Excel	209.00	229.00
Microsoft Word	210.00	239.00
Microsoft Works	161.00	185.00
Microsoft Write	98.70	139.00
MiniCAD 3.15+	325.00	399.00
PowerPoint	225.94	259.00
Quick Keys	55.41	69.00
ReadySetGo 4.0	311.85	359.00
Reflex Plus	146.42	169.00
Scoop	249.48	299.00
Shadowgate	29.00	36.00
Smart Alarms	27.27	33.00
Suitcase	32.74	39.00
SuperLaserSpool	82.60	98.00
Turbo Pascal	53.19	59.00
Versa Term	57.17	69.00
VideoWorks II	99.05	129.00
Word Perfect	call	call

	Price*	Price
Hard Disk Drives:		
Internal	call	call
Magic30meg	659.00	699.00
Magic40meg	759.00	799.00
Magic60meg	859.00	899.00
Magic91meg	1299.00	1399.00
Magic150meg	1750.00	1950.00
Relax 20 MacMate	499.00	525.00
Everex EMAC-20	525.00	575.00
Rodime 20 Plus	649.00	749.00
ProApp20S	549.00	649.00
60MB Tape Backup	659.00	699.00
Abaton Scanner	1295.00	1495.00
Thunderscan 4.0	174.00	199.00
System Saver	56.00	75.00
MacFan	68.00	93.00
Turbo Mouse (+, SE)	77.09	87.00
Abaton ProPoint	95.00	115.00
A+ Optical Mouse	61.08	89.00
800K Drive	165.00	199.00
2400 Baud Modem	160.00	199.00
Xerox Screen	1329.00	1549.00
Qume Laser Printer	3550.00	3950.00
Grappler	56.00	73.00
UPGR	ADE	S

MacCustomer Service

MacProducts USA is now offering special pricing for all customers who sign up for our MacCustomer Buying Service. Simply put, when you become a MacCustomer, you pay a small fee and then you may buy products for a significantly lower price than that found anywhere in the world. The fee that you pay is based upon the following schedule:

Fee:	Buy Level:	Time Period:
\$100	Up to \$1500	Three Months
\$200	Up to \$4000	One Year

128K-512K	119.00	139.00
128K-1024K	249.00	299.00
128K-2048K	599.00	699.00
512K-1024K	159.00	169.00
512K-2048K	399.00	409.00
1Meg SIMMs	209.00	219.00
SCSI Port	69.00	79.00
Dove Upgrades	call	call

DISKS/RIBBONS & ACCESSORIES

Sony DS Boxed	14.10	16.80
Sony SS Boxed	9.60	11.60
Sony DS Bulk	1.14	1.34
Sony SS Bulk	.84	.99
MacDisk DS	.93	1.25
Black Ribbons	2.40	3.00
Colored Ribbons	2.95	5.00
Multicolored Rib.	9.00	12.00
MacPlus Bag	38.50	59.00
MacSE Bag	45.00	69.00

General Information

Please call for products not listed in this advertisement. MacProducts USA carries over 2000 different software, hardware and accessory items for the Macintosh. Software rentals are 1/5 of the purchase price. Please ask for a current price list.

Ordering Information

National: Call 1-800-622-3475 Texas: Call 1-800-2MAC-TEX FAX: 512-835-7315 Our Hours are 7:00am-7:30pm CDT. There is a \$40 minimum on all orders. We accept Visa, MasterCard, C.O.D., Company and Institution PO's, and checks. You are not charged until we ship your order. Texas residents add 8% sales tax. Prices and items are subject to change and availability. Returns may be subject to a restocking fee.

Shipping Information

Minimum \$4 additional. Federal Express is our normal method of shipping.
UPS Next Day Air & 2nd Day Air are also available.

9709 Brown Lane Suite E Austin Texas 78754 512-832-0335

Please circle 28 on reader service card.

and downtime? Is there a compelling business need that overrides any potential problems?

MultiFinder poses a special problem, as it is now an integral part of the system. But it's still unnecessary to invoke its power if it's not required. Will the productivity gained be worth the possible loss from occasional system crashes with possible data loss? In many cases, and with the many applications which are relatively stable under MultiFinder, the answer will be yes. But when the data is critical, discretion may be the better part of valor, and MultiFinder should be turned off - which unfortunately involves restarting the Mac. As a compromise, use common sense and save more frequently and make backups more often. Of course, since most business users don't back up enough as it is, this is always sound advice.

I know, I know. I sound like a curmudgcon, always stressing the negative while everyone else sings the praises of new technology. But I think it's important to keep a level head and not be overcome by the new. Look at new technologies as tools, rather than as ends in themselves, and weigh the potential costs against the potential benefits before charging wildly ahead at full speed. Personally, I think MultiFinder is pretty spiffy, and if nothing else, it makes HyperCard useful. But when I'm working on important documents, I restart my Mac without Multi-Finder. Better safe than sorry.

PINSTRIPE PICKS

Some products worth looking into if you use your Macintosh for business:

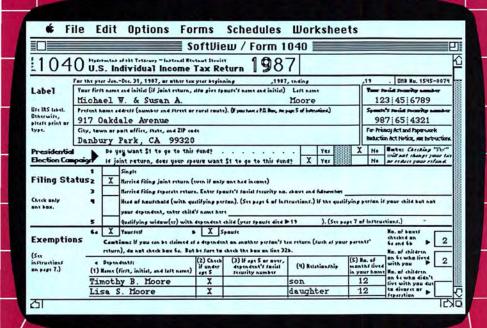
Smartcom II 3.0: from Hayes. A long overdue update to a great telecommunications program, offering color and *MultiFinder* support.

Focal Point: from Activision.
Danny Goodman's "business-in-astack," with everything but the
kitchen sink in a *HyperCard* stack for
business use. Must be seen to be believed.

Business Class: from Activision.
Danny Goodman's HyperCard stack for planning world travel, with information about countries and currencies around the world. For globetrotters only, though, with minimal U.S. information.

Videoworks II: from Macromind. Professional quality animation and color presentation package. Greatly enhanced over previous incarnations.

Meintax/TaxView



THE INCOME TAX PROGRAM

DISPLAYS EXACT FORMS

ON SCREEN - enter data directly into displayed forms. Automatic calculations and linking across all forms, schedules, worksheets and itemizations

- STATUS WINDOW displays Adjusted Gross Income (AGI), Taxable Income, Total Tax Liability, and Refund/Balance Due.
- IRS INSTRUCTIONS ON SCREEN displays entire IRS booklet on a line-by-line basis.
- PRINT ENTIRE TAX RETURN WITH ALL DATA - all printouts IRS APPROVED FOR SIGNATURE AND SUBMISSION, INCLUDING FORM 1040.
- INTERFACES TO SPREADSHEETS,
 DATABASES, AND ACCOUNTING
 ROGRAMS import "text" files directly into the program.

MacInTax/TaxView FEDERAL: suggested list price - \$119^{Ω2*}

CA & NY STATE SUPPLEMENTS (others to follow): list price - \$6522*

Requires MacInTax Federal or TaxView Federal to operate. Includes a converter program to link saved federal data to state forms.

PLANNER SUPPLEMENT: list price - \$7999*

Performs five-year projections of tax liabilities for five alternative strategies, using the new tax laws. Requires MacInTax Federal to operate.

* plus \$5.00 ship/handling, CA res. add 6% sales tax

Macintosh™ and Apple IIGS are trademarks of Apple Computer, Inc. IBM is a registered trademark of International Business Machines, Inc. MacInTax™, TaxView™, and SoftView™ are trademarks of SoftView, Inc.

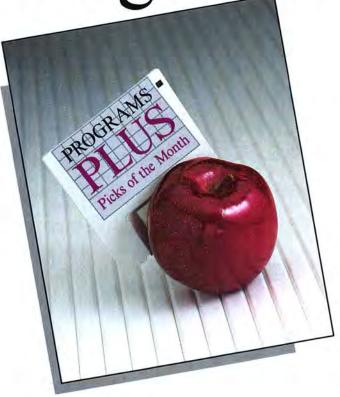
SoftView® Inc.

4820 Adohr Lane, Suite F Camarillo, CA 93010

1-805-388-2626

ORDERS ONLY: 1-800-622-6829

Programs & Peripherals Picks of the Month



Numeric-Turbo by Cambridge Automation

Now you can cut your data input time in half with Numeric-Turbo, a new high-speed input device combining the fast response of a track-ball with a full-scale numeric keypad. The Numeric-Turbo includes cursor keys and direct function keys and its ideal for use with Jazz, Multiplan, Dollars & Sense, and any other Mac software where you want your figures faster.



Numeric-Turbo (Mac128k/512k/MacPlus) .

Utility Software

Apple Computer		Icon-It! (Assign Icons to Menu Items)	39.
Switcher Construction Kit	14.	Read-It! TS (For Thunderscan)	89.
ALSoft		Read-It! O.C.R.	
Disk Express 1.10	26.	(For Image Scanners)	179.
Berkeley System Design		Software Supply	
Stepping Out (Macintosh		Suitcase or Power Station	38.
Screen Extender)	55.		
CE Software		SuperSpool (ImageWriter	
QuicKeys (Macro Program)	65.	Print Spooler Utility)	42.
DiskTop 3.0		SuperLaserSpool	82.
(Portable DA Finder)	32.	Multi-User SuperLaserSpool	199.
Calendar Maker 3.0		Diskfit 1.3	
(Custom Calendars)	32.	(Backup & Restore Utility)	54.
Central Point Software		Sentinel	82.
Copy II Mac (Includes MacTools)	22.	TOPS	
Fifth Generation Systems		Tops For The Macintosh 2.0	119.
FastBack For The Macintosh	59.	Williams & Macias	
Infosphere		myDiskLabeler	24.
MacServe (Network Software)	163.	myDiskLabeler w/Color	31.
LaserServe (LaserWriter Print Spooler)	63.	myDiskLabeler	
Olduvai Software		w/LaserWriter Option	34.
DA-Switcher II		Working Software, Inc.	
(Switch Multiple Sets of DA's)	25.	Findswell (Document Finder)	29.

C.A.T. by Chang Laboratories

C.A.T. stands for Contacts-Activities-Time and lets you link events, people, and schedules to keep track of the relationships in your business or personal life. You can organize contact information into views that allow automatic follow-up on strategies, contacts, correspondence, dates, names, key facts and figures. C.A.T. integrates database, mailmerge, and calendaring functions without you having to learn a programming language!

PixelPaint by SuperMac Software

PixelPaint's familiar Macintosh opera-PIXELPAIN tions unlock the power of color hidden inside your Macintosh II. You can customize pallettes of up to 256 colors from the Mac II's 16.8 million. Produce breathtaking color comps and create incredible effects: zoom, rotate, vary brush strokes, use drop shadows, free rotation, airbrush, tile, fill and color. PixelPaint allows you to send your output to a LaserWriter, Linotonic, Postscript or QuickDrawcompatible printer, film recorder or slide maker.



PixelPaint (Macintosh II) ...

Desk Accessory Programs

Affinity Microsystems Tempo II	89.	Imagine Software	
Tempo 1.2	53.	Smart Alarms & Appointment Diary	35
AffiniFile	49.	Multi-User Appointment Diary	
Borland SideKick V2.0	59.	with Smart Alarms	95
Cortland Top Desk	32.	Solutions, International	
Greene, Inc. Quick Dex 1.4	24.	SmartScrap & The Clipper	35

Languages

Apple Computer MacPascal	99.	Mainstay	
Borland		V.I.P. (Visual Interactive Programming)	85
Turbo Pascal	59.	Microsoft	
Turbo Pascal Database Toolbox	59.	Microsoft Basic Interpreter 3.0	62
Turbo Pascal Numerical Methods	59.	Microsoft Basic Compiler 1.0	119
Turbo Pascal Tutor	49.	Microsoft Fortran Compiler 2.2	169
Consulair		THINK Technologies Lightspeed C	109
Macintosh 68000 Development System	59.	Lightspeed Pascal	65

Communications Software

Communications by	OICTIC		
Apple Computer MacTerminal Compuserve	99.	Think Technologies, Inc. InBox-Starter Kit V2.0	
Compuserve Starter Kit	24.	(3 Personal Connections)	209.
DataViz MacLink Plus with Cable	145.	InBox-Mac Connection	79.
Software Ventures Microphone 1.1 (Includes Glue)	119.	InBox-PC Connection (Req. AppleTalk Card)	125.

to Polish Up Your Mac...

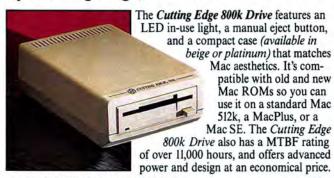
with Special Pricing!

Specials good through March 31, 1988

Double Helix II by Odesta Corporation

Double Helix II gives business professionals the power to create integrated solutions to information management problems. Using words and pictures rather than a complex programming DOUBLE HELD II language, Double Helix II is both easy to learn and even fun to use. Time billing, inventory control, project planning, accounting, and business analysis applications can be easily developed. And, applications are instantly expandable to share information with other Macintoshes and/or DEC's VAX computers.

Cutting Edge 800k Drive by Cutting Edge, Inc.



Focal Point by Activision

Focal Point is a HyperCard-based desktop application that has everything needed to manage your time and tasks. Focal Point records everything from expenses to exciting ideas and it's completely customizable. HyperCard links Focal Point's tools to each other so your calendars are linked to your phone directory and call-logging system. And, Focal Point even has a document launcher that connects directly to your reports, letters, spreadsheets, whatever!

Focal Point59.

MacKids Educational Programs by Nordic Software

MacKids is a complete series of twelve quality educational software products for the Mac specifically designed to teach and entertain kids. Whether your children are preschoolers or young adults, there's a Mac Kids package that will give them the learning edge.

Preschool Disk 1 (3-7), Preschool Disk 2 (3-7), CoinWorks (4-12), ClockWorks (4-10), Early Elementary 1 (6-9), Lemonade Stand (6-16), FlashWorks (6-adult), Naval Battle (6-adult), Word Search (6-adult), Alphabetizer (7-adult), EarthWorks (10-adult), or Bodyworks (10-adult).

WriteNow by T/Maker

WriteNow for Macintosh combines the power you would expect from a dedicated word processing system with the ease of operation that you are used to with MacWrite. WriteNow is fast especially with large

MacWrite. WriteNow is fast especially with large documents and allows true WYSIWYG editing in one, two, three, or four columns directly onscreen. And, WriteNow also includes fast on-line spelling checking, graphics in the same line as

text, and unlimited open documents.

Positively A Plus



800/832-3201

Positively A Plus!

Disk Drives/Hard Disks/Upgrades

AST Research	410	F1/40 (40MB Internal	nan
Mac86 Co-Processor (Mac SE)	419.	Hard Drive for Mac SE)	889
Mac286 Co-Processor (Mac II) Central Point	1049.	HyperCharger 020	Cal
Central Point 800K External Drive	185.	MacMemory, Inc.	
Cutting Edge	165.	Turbo SE (16 Mhz 68000	200
	cial 175.	Accelerator for the Mac SE) Motorola 68881	399
Dove Computer Corporation	ctat 175.	(Math Coprocessor for Turbo SE)	349
MacSnap 524 (512K to 1MB)		MaxPlus Mega (2MB Upgrade	349
or 524E (512E to 1MB)	139.		345
MacSnap 524S	139.	with IMB Chips for MacPlus)	343
(SI2E to IMB w/SCSI)	210	Personal Computer Peripherals	
MacSnap 548 (512K to 2MB)	219.	Beige or Platinum Color. Optional	
or 548E (512E to 2MB)	250	Built-In Modems Available.	
MacSnap 548S	359.	MacBottom HD-21	740
	440	(20+MB SCSI Hard Disk)	749
(512E to 2MB w/SCSI)	449.	MacBottom HD-32	070
MacSnap Plus 2 (MacPlus to 2MB	240	(32MB SCSI Hard Disk)	879
Non Expandable)	249.	MacBottom HD-45	1120
MacSnap 2S or 2H (IMB to 2.5MB	440	(45MB SCSI Hard Disk)	1139
for MacPlus/SE)	449.	MacBottom 20 (20+MB Serial Hard	020
MacSnap 4S or 4H (IMB to 4MB	070	Disk for Mac 512k & MacPlus)	839
for MacPlus/SE)	879.	ProAPP	/ 10
SCSI Interface/Port	125.	ProAPP 20S (External 20MB SCSI)	649
MacSnap Toolkit (torx driver,		ProAPP 20SEi	F (0
opener & grounding set)	15.	(Internal 20MB for Mac SE)	569
First Class Peripherals Sider C-46		Rodime Rodime 20 Plus	
(40MB Hard Drive with 60MB	1200	(External 20MB SCSI)	629
Tape for MacPlus/SE or Mac II)	1399.	Rodime 201 Plus	(20
General Computer Corporation		(Internal 20 MB for MacPlus)	629
FX/20 (20MB External	620	Rodime 45 Plus	020
Hard Drive for MacPlus)	629.	(External 45 MB SCSI)	939
FX/40 (40MB External	000	Rodime 450RX (Internal 45 MB	000
Hard Drive for MacPlus)	889.	for Mac SE & Mac II)	829

Laser Printers & Digitizers

2995.	New Image Technology	
1329.	or MacPlus Version)	249.
	Summagraphics MacTablet 12x12 size	379.
1449.	Thunder Ware	
	ThunderScan V4.0 with Power Port	
149.		
	MacPlus, and Macintosh SE)	199.
169.	Mac II Power Accessory	42.
	1329. 1449. 149.	Magic Digitizer (Mac 128/512k 1329. or MacPlus Version) Summagraphics MacTablet 12x12 size 1449. Thunder Ware Thunder Scan V4.0 with Power Port 149. (Mac 512K, 512K Enhanced, MacPlus, and Macintosh SE)

Abaton ProPoint (ADB Turbo Mouse		Apple Security Kit	34
for Mac SE & Mac II)	119.	Polarizing Filter	33
Bech-Tech		Printer Muffler 80	38
Fanny Mac (Beige or Platinum)	69.	Printer Muffler 132	51
Cambridge Automation		Control Center	63
	ial 99.	System Saver Mac (Beige or Platinum)	64
Central Products	Jim eer	A/B Box (MacPlus Only)	63
MacOpener (All In One Mac Tool)	16.	Turbo Mouse (Reg. or ADB)	82
Curtis Manufacturing		Lightgate Felix (Second Generation	-
Diamond-Surge Suppressor-SP-I	29.	Pointing Devise)	99
Emerald-Surge Suppressor-SP-2	36.	Mouse Systems A+ Mouse (MacPlus)	69
Ruby-Surge Suppressor-SPF-2	55.	A+ ADB Mouse (Mac SE Mac II)	89
Sapphire-Surge Suppressor-SPF-1	47.	Moustrak MousePad 7" x 9" Size	8
DataDesk	3.9	MousePad 9"x 11" Size	9
MAC-101 Keyboard/Beige		Moustrak L/F (Low Friction)	9
(128k/512k & MacPlus)	149.	Nutmeg Systems Nutmeg 15" Monitor	-
MAC-101 ADB Keyboard/Platinum		(Displays One Full Page)	Cal
(Mac SE & Mac II)	149.	Nutmeg 19" Monitor	-
Ergotron	7.55	(Displays Two Full Pages)	Cal
MacTilt or MacTilt SE (Platinum Color) 69.	Nuvotech	-
Mouse Cleaner 360°	15.	EasyNet (Specify Din 8 or DB-9)	27
I/O Design		Orange Micro	
Mac Luggage Available in Navy		Grappler L/Q (Parallel Interface	
or Platinum Gray		for 24 Pin & Laser Printers)	99
Macinware Plus Carrying Case	64.	Ribbons Unlimited	
Macinware SE Carrying Case	74.	Available in Black, Blue, Brown, Green,	
Imageware II Carrying Case	44.	Orange, Purple, Red, Yellow, Silver & O	Gold
Kalmar Designs		ImageWriter Ribbon-Black	4.50
Teakwood Roll-Top Disk Cases:		ImageWriter Ribbon-Color	5
Micro Cabinet (holds 45 disks)	14.	ImageWriter Rainbow Pack (6 Colors)	25
Double Micro Cabinet (holds 90 disks)	20.	ImageWriter II-Four Color Ribbon	11
Triple Micro Cabinet (holds 135 disks)	28.	Silicon Comforts MacChimney	
Kensington External Disk Drive Cover	8.	(Very Effective Cardboard	
Mouse Pocket (Reg. or ADB)	8.	Laminate Convection Cooling Devise)	16
Mouseway (Mousepad)	8.	SoftStyle MacEnhancer	165
ImageWriter or ImageWriter II Cover	9.	The Madson Line	
Macintosh Plus/SE Dust Cover	9.	Professional Series Carry	
Mouse Cleaning Kit w/ Pocket	17.	Cases In Black Ballistic Nylon	
Disk Drive Cleaning Kit	20.	Mac(Plus) Carry Case	79
Tilt/Swivel	22.	Mac SE Carry Case	99
Universal Copy Stand	23.	ImageWriter I (II) Carry Case	75

Blank Media

Single Sided 31/2" Diskettes		Double Sided 31/2" Diskettes	
BASF 31/2" SS/DD Disks (box of 5)	8.	BASF 3½" DS/DD Disks (box of 5)	
Bulk (Sony) 31/2" SS/DD Disks (10)	12.	Bulk (Sony) 31/2" DS/DD (10)	10
Sony 31/2" SS/DD Disks (box of 10)	13.	Centech 31/2" DS/DD Color Disks	
Centech 31/2" SS/DD Color Disks		(box of 10)	19
(box of 10)	16.	Sony 31/4" DS/DD Disks (box of 10)	13
Fuji 31/2" SS/DD Disks (box of 10)	13.	Fuji 31/2" DS/DD Disks (box of 10)	19
Maxell 31/2" SS/DD Disks (box of 10)	13.	Maxell 31/2" DS/DD Disks (box of 10)	2
Verbatim 31/2" SS/DD Disks (box of 10)	13.	Verbatim 31/2" DS/DD Disks (box of 10)	20
3M 3½" SS/DD Disks (box of 10)	14.	3M 31/4" DS/DD Disks (box of 10)	2
C.Itoh Color Disks SS/DD (box of 10)	22.	C.Itoh Color Disks DS/DD (box of 10)	2

Modems

Hayes Microcomputing		Prometheus	- 4
Smartmodem 1200	299.	Promodem 1200	
Smartmodem 1200 Mac		(Hayes Compatible)	239.
w/Smartcom II & Cable (MacPlus)	359.	Promodem 2400	
Smartmodem 2400	449.	(Hayes Compatible)	309.
Transet 1000-128K	269.	Mac Pack w/Procom M and Cable	
Transet 1000-512K	429.	(Specify Mac or MacPlus)	49.
Transet 1000 Mac Accessory Kit	29.	U.S. Robotics	
InterBridge		Courier 1200 (Hayes Compatible)	199.
(Connect Appletalk Networks)	599.	Courier 2400 (Hayes Compatible)	349.
Migent		Courier 2400E (Haves Compatible)	379.
Migent Pocket Modem		Courier HST 9600	
(ext. 300/1200 Baud)	169.	(Hayes Compatible)	689.

800/832-3201

Customer Service (203) 378-3662 Monday thru Friday 9 A.M. to 9 P.M. Saturdays 10 A.M. to 6 P.M. (Eastern Time)

OUR POLICIES

- · We accept MASTERCARD and VISA with no added surcharge.
- · Your credit card is not charged until we ship.
- · If we must ship a partial order the shipment that completes the order is sent freight free.
- If you are ordering by mail, we accept private and company checks. With MASTERCARD and VISA orders include card number and expiration date. Connecticut residents add 7.5% sales tax.
- · Locations more than I day away shipped via Federal Express Standard
- · Federal Express Priority I service also available.
- · Sorry, we cannot accept COD orders.

 Continental United States: Add \$3.00 per order to cover Federal Express Standard Air service.* APO/FPO orders shipped 1st Class Mail (add 3% \$5.00 Min charge). Alaska, Hawaii and Outside Continental US: call or write for information.

RETURNS

 Defective software will be replaced immediately by the same item. Defective hardware will be replaced or repaired at our own discretion. Call customer service at (203) 378-3662 to obtain a Return Authorization Number before returning goods for replacement. Products purchased in error subject to a 20% restocking fee.

All items subject to availability. Prices subject to change without notice.

*When your order is shipped from our facility in Stratford, CT, Federal Express Standard Air service will deliver the package in 1 to 2 days. This service does not guarantee next day delivery.

Now Shipping Standard Air Service by



© Copyright 1988 Programs Plus, Inc. Please circle 69 on reader service card.



& Phenomenal Prices.

DataBase Management

Activision Focal Point	Special	59.	Chang Laboratories C.A.T.	
Business Class		32.		ecial 229.
Acius 4th Dimension		559.	Microsoft Microsoft File 1.05	110.
Apple Computer HyperCard		44.	Nantucket Software	
Ashton Tate dBase Mac 1.0		295.	McMax (dBase III Compatible)	179.
Blythe Software Omnis 3 Plus/Exp	press	279.	Nashoba Systems FileMaker Plus	149.
Omnis 3 Plus Multi-User			Odesta Double Helix II Sp	ecial 329.
(MacServe, Tops Network, Cory	vus.		Multi-User Helix	429.
Appleshare or Hypernet 2-5 user	rs)	489.	ProVUE Development OverVUE 2.1	149.
Borland Reflex Plus		165.	Software Discoveries Record Holder P	lus 45.

Business Software

Apple Computer MacProject	159.	Mainstay Think 'n Time	
Bravo Technologies MacCalc	79.	(Time Management Package)	69.
Cricket Software Cricket Graph	124.	Micro Planning Software	
Cricket Presents	289.	Micro Planner Plus	299.
Pict-O-Graph	105.	Microsoft	
Deneba Software Comment		Microsoft Works I.1	179.
(Attach Electronic Notes to Files)	59.	Microsoft Multiplan I.II	110.
Xtra 2.0	109.	Microsoft Chart 1.02	72.
Layered		Microsoft Excel 1.04	224.
Notes For Excel, Jazz, PageMaker,		Microsoft PowerPoint	Call
Microsoft Works or Word 3.0 (each)	41.	Satori Software Bulk Mailer 3.0	79.
Legisoft/Nolo Press WillMaker 2.0	30.	Bulk Mailer Plus	195.
Lotus Jazz 1A	189.	Legal Billing	369.
Lundeen & Associates		Legal Billing II	539.
WorksPlus Commands	62.	Project Billing	409.
MacroPac International		Turner Hall Publishing	
101 Macros For Excel	45.	MacSOZ!	59.

Word & Outline Processors

Apple Computer MacWrite Living Videotext	99.	Microsoft Write	109.
Living Videotext		MindWork Software MindWrite 1.	1 159.
More 1.1C (Color Version)	Call	Symmetry Acta V2.0	36.
Microsoft Microsoft Word 3.01	239.	T/Maker Company WriteNow	Special 97.

Spelling & Grammar Checkers

Aegis Development		Coach Merriam Webster's Thesaurus 2.0	36
Doug Clapp's Word Tools	42.	Lundeen & Associates	
A.L.P. Systems MacProof 3.0		WorksPlus Spell 1.1	46
(Requires MacPlus)	119.	Microlytics, Inc.	
Batteries Included		Word Finder (Synonym Finder)	39
Thunder! (Interactive Spelling Checker)	31.	Sensible Software Sensible Grammar	57
Deneba Software Spelling Coach 3.0		Working Software, Inc.	
(Webster's Medical Legal Hyphenation)	59.	Spellswell 2.0	42
Spelling Coach 3.0 Professional		Spellswell Medical or Legal Dictionary	57
(Adds Definitions & Thesaurus)	109.	Lookup (Makes Spelling Suggestions)	29

Desktop Publishing

279.	Postcraft International, Inc.	
399.		
	for Desktop Publishing)	120.
49.	Quark, Inc. Quark XPress	479.
169.	Solutions, International	
	Super Glue	
119.	(Graphics Integration Software)	52.
279.		299.
	Word Perfect Corporation	
279.	Word Perfect for the Macintosh	199.
	399. 49. 169. 119. 279.	 399. Laser FX (Special Effects for Desktop Publishing) 49. Quark, Inc. Quark XPress 169. Solutions, International Super Glue 119. (Graphics Integration Software) 279. Target Software Scoop Word Perfect Corporation

Accounting Packages

Chang Labs		Migent In House Accountant	119
New Enhanced Version III Modules!		Monogram Business Sense	285
Rags to Riches GL, AR, or AP	120.	Dollars & Sense 4.0	89
Rags to Riches 3-Pak (GL/AR/AP)	289.	Peachtree	
Inventory Control or Professional Billing	239.	Back To Basics Three Pack	
Professional 3-Pak		(GL/AR/AP)	139
(GL/Professional Billing/Payables)	359.	Softview MacInTax Federal 1987	69
Retail Business 3-Pak	359.	California or New York	
Layered Insight One Write	189.	Supplement (1987)	39
Insight Expert G/L, A/R, or A/P	349.	TaxView Planner (1987-1991)	49
Insight Multi-User	- 12	Survivor Software MacMoney	
A/R, A/P, or Inventory	529.	(Financial Planner)	40

Statistics & Math Packages

BrainPower		Borland Eureka! The Solver	129.
StatView 512 Plus	175.	Systat Systat 3.1 (Specify Mac 512K.	
Math View Professional	145.	MacPlus, or Mac II)	459.

Graphics Software

ABA Software Draw It Again Sam	94.	MacAtlas Professional	129.
Adobe Systems Adobe Illustrator		Miles Computing	
(MacPlus, SE & Mac II)	379.	Mac The Ripper, Orchestra of Fonts,	
Altsys Corp. FONTastic Plus	47.	People-Places-Things, or	100
Fontographer 2.2	239.	Taking Care of Business (each)	27.
Ann Arbor Softworks Full Paint	49.	Mindscape ComicWorks	47.
Apple Computer MacPaint	99.	Graphic Works I.I	87.
Broderbund Print Shop	37.	Olduvai Software Post-ART (3-Disk Set)	35.
VideoWorks II	118.	Silicon Beach Software	
Casadyware Fluent Fonts 2.0 (2-Disk Se	1) 28.	Digital Darkroom	114.
Fluent Laser Fonts Vol. 1-15 (ea)	46.	SuperPaint	79.
Deneba Software Canvas 1.0		Silicon Press	41.
(Includes Desk Accessory)	109.	Solutions International The Curator	79.
Canvas DA	59.	Springboard Certificate Maker	24.
Dubl-Click Software		SuperMac Software Pixel Paint Special	1 249.
World Class Fonts! (Both Volumes)	36.	Symmetry PictureBase	59.
WetPaint (Both Volumes)	36.	T/Maker	9.51
Enzan-Hoshigumi USA	-	Click Art Letters I, Letters II, Personal	
MacCalligraphy 2.0	115.	Graphics, Publications, Effects,	
Japanese Clip Art Scroll 1		Business Image, or Holidays (each)	28.
"Heaven" or Scroll 2 "Earth"	59.	Christian Images	35.
Japanese Clip Art "Borders" Scroll	69.	Click Art EPS Illustrations	Call
Foundation Publishing	07.	Click Art Laser Fonts: Plymouth,	Can
Comic Strip Factory	45.	Bombay, or Seville (each)	45.
Comic People	26.		38,
Micro: Maps MacAtlas Paint Version	32.	Unison World Chest Top Publishing Zedcor DeskPaint 1.0	39.
where, maps machtlas raint version	34.	Leucor Deskraille I.U	39.

CAD Products

Apple Computer MacDraw	159.	Professional 3D	199.
Challenger Software	137.	Innovative Data Design	199,
Mac 3D (Enhanced Version 2.0)	119.	MacDraft I.2A	149.
Cricket Software Cricket Draw	169.	Silicon Beach Software Super 3D	159.
Enabling Technologies Easy 3D	79.	Super 3D Enhanced (Mac II)	249.

Educational/Creative Software

Baron's Baron's SAT	35.	CrystalPaint	32
Bogas Productions Studio Session	52.	Concertware+ 4.0 or American Discovery	39
Broderbund Jam Session	30.	Concertware+ MIDI 4.0	79
Geometry, Calculus or Physics	63.	Hayden MusicWorks	29
Compu-Teach Once Upon A Time	24.	Score Improvement System for the SAT	58
Stepping Stones Level I or Level II	24.	Learning Company Reader Rabbit	34
Davidson & Associates Speed Reader II	39.	Mindscape Perfect Score SAT	
Math Blaster or Word Attack!	27.	w/The Perfect College	46
Electronic Arts		Nordic Software	
Deluxe Music Construction Set V2.0	62.	MacKids Educational	
1st Byte/Electronic Arts		Programs (each) Special	al 29
Kid Talk, Speller Bee,		Rubicon Publishing	
First Shapes, or Math Talk	32.	Dinner at Eight-Silver Palate Bundle	51
Mathtalk Fractions, First Letters &		Simon & Schuster Typing Tutor IV	35
Words, or Smoothtalker	32.	Speed Reading Tutor IV	32
Great Wave Software Time Masters	22.	Springboard Early Games for	
KidsTime or NumberMaze	27.	Young Children or Easy as ABC	28

Game Software

Accolade Hard Ball	23.	Plundered Hearts, Stationfall,	
Activision Hacker II or Shanghai	24.	The Lurking Horror, Trinity,	
Star League Baseball or		or Zork I (each)	24.
Tass Times in Tonetown	21.	Beyond Zork	32.
Portal	30.	Hitchhiker's Guide to The Galaxy	18.
Artworx Bridge 5.0	22.	Zork Trilogy	44.
Avalon Hill Mac Pro Football	29.	Microsoft Flight Simulator 1.02	32.
Broderbund Ancient Art of War	27.	Miles Computing Inc.	
Bullseye Software		The Fool's Errand or Downhill Racer	27.
Fokker TriPlane Flight Simulator	33.	Mindscape Balance of Power or	
Ferrari Grand Prix	33.	Crossword Magic	30.
Electronic Arts Ogre	20.	Deja Vu: A Nightmare Comes True	30.
Reach for the Stars	32.	King Of Chicago or Shadowgate	30.
Starfleet I	37.	Defender of the Crown, Siboot	
Venture's Business Simulator	47.	or The Uninvited	30.
ChessMaster 2000, Patton vs Rommel		Practical Computer Applications	-
or Scrabble	28.	MacGolf 2.0 or MacRacquetball	36.
Archon, One-On-One, Pinball Construct	ion	MacCourses	34.
Set, Seven Cities of Gold, Software		Psion Psion Chess (3D & Multi-Lingual)	31.
Golden Oldies or SkyFox (each)	15.	Sierra On-Line Space Quest	30.
EPYX Winter Games		King's Quest I, II, or III (each)	30.
or Sub Battle Simulator	24.	Leisure Suit Larry	24.
Hayden Software Sargon III	29.	Silicon Beach Software	
Infinity Software, LTD.		Enchanted Scepters	21.
Grand Slam Tennis I	27.	Dark Castle or Apache Strike	27.
World Cup Soccer	27.	World Builder	41.
Go	22.	Simon & Schuster	
Infocom		Star Trek (The Kobayashi Adventure)	24.
Ballyhoo, Border Zone, Bureaucracy,		Sir-Tech Mac Wizardry	35.
Hollywood Hyjinx, Leather Goddesses		Sphere, Inc. GATO, Orbiter, or Falcon	26.
of Phobos, Moon Mist, Nord & Bert,		XOR Software NFL Challenge	65.



DECEMBER '85

Accounting-software · Excel Macros · is it Just Text? · Novels of the Mind . Beginners guide to telecommunications MIDI to the Macs -Basic Pt. 2 · Quick-Set. Sidekick & BattervPak reviewed



JANUARY '86

Best products of 1985 · ThinkTank the creative way Deja Vu review . The Great Language Face-Off · MUG Line-users group . Crunch - Beyond the ImageWriter - Basic



FEBRUARY '86 Power User's Man-

ual . The Laser-Writer Revealed -Function Keys - Apple's HD20 & HFS -MacDraft vs. Mac-Draw · Business Filevision - Rogue - 3 flight simulators reviewed · Basic Pt. 4

MacUser Back Issues



MARCH '86

The Mac Plus · Helix · Sargon III vs. Psion Chess · Omnis 3 · MacProject and Micro Planner review · Multiplan · C Pt. 1 - Clipboard. Note Pad and Scrapbook revela-



APRIL '86

Softstrip reader . ReadySetGo 2.0 -Astronomy software roundup · The Home Accountant - The Cheat Sheet - The Ancient Art of War -Interlace - a relational Bargain - C



MAY '86 Upgrading your

Mac - Secrets of Word - StatWorks &StatView · Easy 3D · Tee off with Mac-Golf · Borrowed Time · Kids games with Slide Show Magician and VideoWorks · C Pt. 3

Now you can finally round out your necessary Macintosh documentation with those missing issues of MacUser. Order soon, because once these back issues are gone, they're MacHistory, and quantities are limited.

For more "hands-on" Macintosh information, get your hands on the MacUser collection. At \$6.00 each, they're probably the best investment you can make for your Mac.



Special Desktop Publishing Issue -Newsletters · Fontographer and Laser-Writer fonts . Page-Maker 1.2 · Directory · MacSpin · Switcher and RAM disks · TML Pascal · Wizardry · C Pt. 4



JULY '86

Tempo · Micro-Phone, Smartcom and Red Ryder . CLR Libraries -Games that let you make games · Quartet and Ensemble . Mac-a-Mug · Pascal Pt 1



AUGUST '86

Mac systems in the office · Your First Utilities · Radio Shack Model 100 and Mac · Software print spoolers · The colors of Silicon Press · On-line services · Pascal Pt. 2



SEPTEMBER '86

Professional Desktop Publishing Issue · Effective Charting - Power Word Processing . The Linotronic Connection · MacPublisher II - SCSI hard disk roundup -MORE · Uninvited



OCTOBER '86

Microsoft Works . As the Double Helix twists - Nine spell checkers reviewed · Archon - Word games galore · Exploring MAUG · Full-Painting · Finder basics · Pascal Pt. 3



NOVEMBER '86

Radius monitor -Works . Power PageMaker techniques Beginners telecommunications · Cricket Graphing -Flight Simulator/Orbiter · StoryBoarder · Shanghai surprise · Pascal Pt. 4



DECEMBER '86

MacUser looks at the IIGS + InRox -AppleTalk Electronic Mail - Inside Insight · Studio Session · PhoneNET · Orb-Quest - Secrets of Pascal - ZBasic -StatView 512K+ Smart Games



JANUARY '87

Special Desktop Productivity Issue · Jazz vs. Microsoft Works - 2nd Annual Editor's Awards · Desktop Publisher of the Year - Map-Maker · GravPaint · Dungeon of Doom



FEBRUARY '87

Dynamac preview -Is SuperPaint super-HardBall, a great baseball game - Get more out of MORE . SCSI drive comparison · Design your own Mac screen · LightSpeed Pascal



Desktop Communications Issue + AppleShare · TOPS · InterMail vs. inBox -Music Mouse · BA-SIC 3.0 interpreter & Compiler - Cricket Draw · EZ-Draft ·



MARCH '87

Word processors round-up · Word 3.0 · WriteNow · dBase Mac preview · Financial and tax programs . Buffers go head to head -Mac Pro Football review · Prolog — Al for the Mac -



APRIL '87 Two new Macs -

Page processing with Ragtime . Guide review - Clean copy with MacProof · Create a world with World Builder - Dark Castle review · DAs galore · Lightspeed C review



MAY '87

MacMoney +



JUNE '87

Visual Programing · Trapeze Secrets of Excel · How to pick the right programs for your publishing job V.I.P. Scrapbook Seven Cities of



JULY '87 Special Supple-

ment-Desktop Publishing: Pagemaker 2.0 · Ready, Set, Go! 3 · Illustrator · Typesetting on your Mac - The Apple Desktop BUS -Chessmaster 200 · Parameter Manager · Turbo Pascal



AUGUST '87

The Writing Process-MindWrite · PowerPoint for presentations . UNIX - A RASIC approach to writing a MIDI program · LISP the Al language of choice

HOW TO ORDER

Send \$6.00 for each back issue ordered : (\$7.00 Foreign/Canada, U.S. currency only) to:

> K. Armstrong MacUser Magazine Ziff-Davis Publishing Co. **One Park Avenue** 4th Floor New York, NY 10016

NAME	
ADDRESS	
CITY	
STATE	
ZIP	
□ December 85	☐ December 86
☐ February 86	☐ January 87
☐ March 86	☐ February 87
☐ May 86☐ June 86	☐ March 87 ☐ April 87
□ July 86	□ May 87
August 86	□ June 87
☐ September 86	☐ July 87
□ October 86	☐ August 87
☐ November 86	

Money Order

I'd like to pay with:

□ Check



by Michael D. Wesley

A Candide Interview

ucked away in an obscure corner of the old Four Phase building, now part of the Apple campus/complex, is a small office that houses the littleknown Bureau of Macintosh Standards. I found it by accident as I wandered the corridors looking for hints of new Macintosh products. The room was almost completely hidden by stacks and stacks of boxes that said Lisa on the side, but I could just see a bit of light so I went to investigate. There was the office, the door slightly ajar, so I knocked lightly and entered, as any good journalist would do. The room's occupant appeared to be somewhat taken aback that I came in so casually. He seemed a bit unaccustomed to having visitors.

"Hello," he said, after a few moments of fluster and bluster, "and who might

you be?'

"Mike Wesley," I said with conviction, "a columnist for *MacUser* magazine." This was a piece of information best kept hidden at times, but I decided to play it straight and forthright in this instance, on the off chance that such a novel approach might work. "And you are...(pregnant pause)...?"

"Dr. Pangloss, of course. I am in charge of Macintosh Standards." He offered me a hand and asked me to sit on any pile of boxes that looked suitable. He took a seat behind an enormous old desk that was covered with newspapers, magazines and other odds and ends.

"I believe my people set up an appointment for me to interview you," I lied, "at..." I looked at my watch — 2:49 — "2:45. Sorry I'm a few minutes late."

"That's quite all right," Dr. Pangloss said, "I wasn't aware of any interviews today, but as you're here and I'm here it must of course have been planned this way." He looked disoriented for a moment, then said "You know I've never been interviewed before, that I recall."

I looked around the office, which seemed almost too cluttered to be habitable. On the walls were several advertising posters for Macintosh, including all the old classics ("Test Drive a Macintosh," for example) and one or two that I had never seen before. One in particular that caught my eye was a lovely watercolor with the slogan "Macintosh — Best of All Possible Computers." Dr. Pangloss

saw me glance at it and said "Designed that campaign myself, but it never got off the ground. Pity."

"Dr. Pangloss," I said, "what exactly did you mean when you said you were in charge of Macintosh standards?"

Dr. Pangloss sat up slightly and said in a very self-important manner "I am in charge of maintaining the standards of operation and design explained so perfectly in Inside Macintosh. It is up to me to see that Apple and third-party products conform to the Macintosh way of doing things. You see we must remain consistent, because it is the ease of use and understanding that sets Macintosh apart and makes it uniquely - well, Macintosh!" I thought about this for a moment, unable to believe my good fortune at stumbling across this office. I pulled out my omnipresent journalist's notepad and pen. "Do you actually set the standards?" I asked.

"No, that's done by the people who create the hardware and software that combine to form a Macintosh. I'm just an overseer, if you will. In fact I know nothing whatsoever about Macintosh hardware or software, except of course that I know the standards."

"Isn't that somewhat odd," I asked, "shouldn't your job be handled by someone with considerable expertise?"

"Oh, indeed not young man," he responded. "It's imperative that the 'keeper of the interface,' as I am sometimes called, be totally objective and without bias. If I knew anything at all about computers I couldn't possibly be objective."

"Dr. Pangloss, as important as standards are, don't you think that they can be confining? I mean, isn't there a trade-off between consistency and innovation? If everything has to remain somewhat constant, doesn't that preclude the wild kind of innovation that led to Macintosh in the first place?"

"Nonsense," he responded. "If we let every developer have his own way, we'd be just like all the other computers. We must maintain the standards."

"But what about Apple programs, which consistently break the rules and have to be rewritten to accommodate changes in the System software?"

"'A foolish consistency is the hobgoblin of little minds'," said Dr. Pangloss with a fist pounding. "Emerson!"

Intrigued, I pressed on. "And what do you think of *HyperCard*, Dr. Pangloss?"

Dr. Pangloss' face filled with a radiant smile, as if he had just seen the messiah. "Wonderful," he said, "HyperCard is the best of all possible computer programs."

"Does it bother you at all that Hyper-Card itself, and HyperCard stacks, don't have to follow the standard interface?" (I asked anyway, even if the answer was predictable.)

"Of course not," said Dr. Pangloss. "HyperCard is the best of all possible programs, and therefore must be the standard. Nothing less would do for the best of all possible computers."

"What happens to the original Macintosh ideal of a computer that is not only easy to use but also affordable so almost everyone can have access to it? I mean, *MultiFinder* is great, and *HyperCard* is great, but it won't be long before a *basic* Macintosh requires a minimum of 2 megabytes of memory and a hard disk as standard equipment."

"Well," said Dr. Pangloss, "we must have been meant to have memory upgrades and large hard disks or Apple and third parties would not supply these products."

I was running out of time so I asked one last question. "If I understand it cor-



rectly, the 'standards' you maintain actually change and grow according to Apple's plan, some details of which may have been kept secret from 'the rest of us,' including other developers?"

"Quite so. The best of all possible plans unfolds in its own way and in its own time. And I am the one who must see that we all follow it to the letter."

"Well, Dr. Pangloss," I said on my way out, "thank you very much for your time. It has been a revelation."

"Oh, before you leave young man, what do you think should be standard



"Learn HyperCard fast-without reading anything!" Professor MacTeach

ivpercard

made

HyperEASY

Four Audio Tutorials Available

- Using HyperCard
 - Creating Cards & Stacks
 - Basic Scripting
 - Advanced Scripting

Quick and Easy

Each tutorial can be completed in about an hour. You learn by hearing and doing. Friendly instructors on an audio tape talk you through the HyperCard program.

(408) 559-8635

You are welcome to call collect!

HyperEasy Training	Name
□ Using HyperCard \$39.9 □ Creating Cards & Stacks 49.9 □ Basic Scripting 49.9 □ Advanced Scripting 49.9	5 Address
SubtotalShipping & Handling \$5.9 CA-Add Sales Tax Order Total	Daytime Phone ()
Personal Training S P.O. Box 54240, San Jose, CA 951	Expiration Date Send me information on your other tutorials— for Microsoft Word, Excel, Works, Aldus' PageMaker, and MORE from Living Videotext.

SHIPPING NOW

Order today by calling or mailing the coupon.

Please circle 60 on reader service card.

A foolish consistency is the hobgoblin of little minds'," said Dr.
Pangloss.

that may not be on the list yet?" Dr. Pangloss asked.

Without having to think about it, I said "Every software program should have a good, clear, thorough, well-planned, well-written manual." And I left, with Dr. Pangloss muttering "What a novel idea!" behind me.

LEARNING REVOLUTION REVISITED

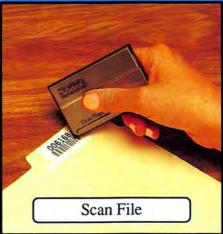
I meant it when I said in a previous column that I planned to be a crusader to get Macintosh into grade schools. (Clever segue, eh?) I've gotten a bigger response to the first Mac-for-kids column I did than anything else I've written for MacUser. Apparently, I'm not alone in thinking that Macintosh should be the computer of choice at all levels of education, not just advanced high school and college. There was an interesting cover line on a national magazine last month; interesting, at least in the sense that I really couldn't believe it. Educators across the country are still asking the question "Should there be a computer in every classroom?" These people have completely missed the point of personal computers. The answer is unequivocally NO. There should, instead, be a Macintosh ON EVERY DESK, and teachers in every classroom who know what to do with them.

But let's face it. Aside from the fact that most teachers are afraid to bring technology into the classroom, and costs prohibit such an option, the establishment (god, did I just age myself the way I think I did?) can't afford to let it happen. Just think what an entire generation of educated, intelligent and well-prepared young people could do to this country? Why, they might even be smart enough to make drastic changes in the system!

One last point, then I'll end the diatribe. Why is it that we reserve the best technology, best people and best ideas for business, and stick our education system with the leftovers? Oops, I think I already answered that in the previous paragraph.

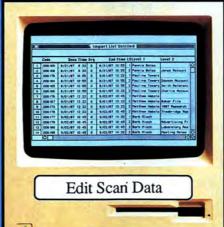
TimeWand® - Organizing Information











File Room #5 September 4, 1987					
Code	Description	Employee	Date		
006168	Jones Account	Pennie Bates	8/31/8		
006164	Dawson Account	Pauline Towers	8/31/8		
006165	Smith Reference	Pauline Towers	8/31/8		
006166	Charlie Account	Pauline Towers	8/31/8		
006167	Baker File	Matthew Webster	9/01/8		
006173	1987 Research Budget	Matthew Webster	9/01/8		
006178	Trowbridge Report	Matthew Webster	9/01/8		
006179	Advertising Plan	Barb Misch	9/02/8		
006189	Laboratory Results	Barb Misch	9/02/8		
006195	Meeting Notes	Barb Misch	9/02/8		
006182	Garth Correspondence	Pennie Bates	9/02/8		
006183	July Computer Sales	Pennie Bates	9/02/8		
006184	Commerce Study	Pennie Bates	9/02/8		
006185	Teller Audit	Matthew Webster	9/03/8		
006186	Product Specification	Matthew Webster	9/03/8		
006187	Develop Da	. D	/03/8		

Applications for the TimeWand - Document Control

Ever wonder who has that important file on the Jones account? There is no record of who took it from the file room and no one remembers who had it last. You spend your valuable time and patience tracking it down, but when you finally locate the file, it may be too late for timely use.

Make it easy on yourself by tracking documents with the TimeWand. By simply scanning the bar code on the Jones file and your employee ID number (or department name), the TimeWand records who has the file *and* the time it was taken.

The TimeWand is simple to operate, yet provides the data necessary to create detailed reports. Generate reports by incorporating data collected with the TimeWand into your data base. The reports allow you to quickly find who has those important files, check a file's current activity, identify which items are 'slow movers', or show the amount of traffic the file room handles each day.

No manual data entry or deciphering of your co-worker's handwritten notes is required. All TimeWand entries are made by scanning bar codes! It's fast, easy, and, most importantly, organized.

TimeWand. It helps you keep up with the Joneses.

TimeWand (2K version) - \$198 Single Recharger and Cable - \$149 TimeWand Manager Software (Macintosh) - \$489 TimeWand Communication Software (IBM) - \$299



1105 N.E. Circle Blvd., Corvallis, OR 97330-4285 503-758-0521

Videx and TimeWand are registered trademarks of Videx, Inc.



How to turn a Macintosh into the ultimate conversation piece.



AppleShare turns a Macintosh Plus, SE or Macintosh II into a high performance file server Add AppleShare PC software and an AppleTalk PC card to your MS-DOS computers and Macintosh will gladly talk to them too.

With an AppleShare file server you can make Macintosh a dazzling conversationalist that can talk with as many as fifty other computers. Even if some of those computers can only speak in standard MS-DOS.

Completely integrated with the Finder; our AppleShare file server works the way Macintosh works. So everyone on your AppleTalk* network can have access to shared documents, programs and templates just as if they were stored on their own hard disks.

In addition to sharing your information, AppleShare also lets you protect it.

When you create a folder, AppleShare lets you decide how (or if) its contents are to be shared. AppleShare access controls let you grant rights to individuals, a group or everyone on the network at three privacy levels: see folder; read documents within a folder; make changes to documents in the folder.

Because AppleShare is the Apple standard for file sharing, any software labeled, "AppleShare Aware" will run smoothly and transparently right across your network.

And you can expect to see some very powerful new "AppleShare Aware" multi-user and multi-launch programs by third party companies like Microsoft and Aldus.

The AppleShare file server also offers a "waste not" upgrade path. Small workgroups can start on a Macintosh Plus or SE. When the network's needs expand, transfer the server to a Macintosh II. And put the other Macintosh back to work as someone's individual workstation.

Large groups can work with multiple servers on one network. Simply use the Chooser

to select the server you want, just as you select a LaserWriter printer.

Find out how AppleShare can get all of the computers in your office talking to each other.

Call 800-446-3000, ext. 600 for the name of an authorized Apple reseller. And start a dialogue that everyone can work with.

The power to be your best."



Mac II power for the SE:

Once you try an accelerated SE, you won't want to go back. Prodigy SE™ by Levco gives you the highest performance, true Mac™II and SE compatibility, and confidence that your system will expand properly. Here's how:

High performance design – no compromise.

The Prodigy SE gives you the 32-bit 68020 running at 16MHz, with fast, 32-bit memory. Like the Mac II. Not the slower, 16-bit memory on the SE mother-board that some accelerators use.

The 68881 coprocessor chip that speeds math operations up to 100 times now comes *standard*.

Your SE will run Mac II software faster than a Mac II. Unlike some other accelerators, Prodigy SE lets you switch back to *native* SE mode.

The Prodigy SE can expand to 4 Mb of RAM now (with future expansion

up to 32 Mb). And, like the Mac II, Prodigy SE includes a socket for the PMMU chip that is essential for Apple's® upcoming A/UX™. Boards without the PMMU lock you out of Apple's next-generation software.

Keep your SE expansion options—no compromise.

The Prodigy SE's optional SE expansion slot lets you connect *your choice* of SE expansion peripherals. Like our SuperView large screen monitor.

Some accelerators don't give you a true SE expansion slot, limiting your options.

Superb support – no compromise.

Our thorough documentation—rated highest by InfoWorld—will answer your questions. Our high performance support hotline will solve your problems. Period.

For your nearest *authorized* SuperMac[™] dealer, call today.

Find out why Byte Magazine, when comparing SE accelerators, concluded, "The Prodigy SE wins on both performance and peripheral expandability." Or why InfoWorld has given Prodigy SE the highest rating of all accelerators reviewed.

SuperMac Technology 295 N. Bernardo Mountain View, CA 94043

SUPERMAÇ

(415) 964-8884 Dept 23

Apple is a registered trademark, Macintosh II, SE, and A/UN are trademarks of Apple Computer Inc. Prodigy SE is a trademark of Levco Inc., a division of Scientific Micro Systems. SuperMac is a trademark of SuperMac Technology, a division of Scientific Micro Systems.



by Doug Clapp

The Most Beautiful Stacks

irst we had ugly computers. Then came Macintosh, the first computer that wasn't ugly. But it was the computer that made "ugly documents" possible. With Macintosh you can make ugly documents, ugly graphs and ugly desktop presentations. And now: ugly stacks. It's the curse of power. Sturgeon's law says "90 percent of everything is garbage."

But that's okay. If we were perfect, we wouldn't be here. And the inverse of "If it was easy, everybody'd do it," must be

"It's easy! Let's do it!"

With HyperCard, it is easy. And everybody, it seems, is doing it. But wait! Before you reach for that modem, stop. Before you drop your latest stack into your user group's public domain hopper, pause.

Don't be hasty. Don't foist yet another confusing, ill-conceived stack onto a public thirsting for the new, the unusual, or even a couple of clever buttons. Do us all a favor and follow these simple (in the best Macintosh tradition) guidelines:

1. Don't protect your stack.

Information defies entropy. You can spread it around, pass it out, and it doesn't get smaller. Amazing. Keep it in mind: don't protect your stack. Bread on the waters works. If you truly need to

protect your stack, maybe you should reconsider your market.

2. Don't change the userlevel.

Unless you're targeting your efforts solely at the naive user, don't change the userlevel. Don't deny users the chance to customize your stack to their needs. It's better to encourage users to make a copy of the stack, then customize away. Changing the userlevel, like protecting your stack, is arrogant. Don't be arro-

3. Put in a map card.

Of course your stack makes sense to you - you created it. But the new user doesn't have the slightest idea of what's inside. Put in a map card. If it's a big stack, consider an index and table of contents. Go back to the HyperCard Help stacks for a new appreciation of good organization.

4. Follow the conventions.

Don't be tricky. The beauty of Macintosh is that you can usually figure out how something works. That's only true because hundreds of developers have on the whole — followed a shopping list of conventions. You now have the same responsibility. Ask yourself: "How would I guess this worked, if I didn't know how it worked?" The answer is: The way similar things work in other stacks. For example, if something works like a button, make it a button. Not a radio button or a checkbox; a button. If the differences between buttons and radio buttons and checkboxes aren't clear, pick up a copy of Inside Macintosh. The section on user interface goes into adequate detail.

5. Check Auto-Hilite.

A basic convention. When a user does something, the computer should do something. The feedback should be as immediate as possible. Hence Auto-Hi-

6. Don't hide.

A user should never need to COM-MAND-OPTION. If it's not clear which areas, are "alive" and which aren't, you haven't done a good job. If your aunt in Tucson can't figure out what to click where, other folks will also have a tough time.

Clapp's HyperRules

- 1. Don't protect your stack.
- 2. Don't change the user level.
- 3. Put in a map card.
- 4. Follow the conventions.
- 5. Check Auto-Hilite.
- 6. Don't hide.
- 7. Think first, code later.
- 8. Anticipate the user.
- 9. Don't clutter.
- 10. Document, document.
- 11. Details.
- 12. Get the bugs out.
- 13. Compact before uploading.
- 14. Don't charge.
- 15. Make us happy.

7. Think first, code later.

It's fun to code, it's hard to think. But think first. Make a list. Use paper. Write down exactly what the stack will do. Is there one "big idea?" Or is it a collection? What is it? Try to keep your focus narrow; don't throw everything in just because — for once — you can.

Don't code yet. First, decide what particular buttons, fields and functions you'll need. Make another list. Write down what goes on what card. If you can, rough out the code for any tricky buttons or handlers. Finally, when you know what you want, and how everything will work, code.

8. Anticipate the user.

Never assume anything. Imagine the most naive user. What will they do when they first open your stack? Muck around, probably. Let 'em. Keep your organization clear and make your program actions "bulletproof." Don't enforce a rigid sequence of actions. Make the most likely action the "right action." Remember, you've worked on this a long time; other people will come to it "cold."

9. Don't clutter.

Simplify, simplify, simplify. If Strunk and White's dictum was "Omit needless words," yours should be "Omit needless buttons." And needless cards and pictures and fields and text. Clutter is confusing. Simplicity is simple and serene.

Writers and other creative types learn to "kill their children." In other words,



QUALITY, NOT COST

GET MORE FROM YOUR MACINTOSHTM INVESTMENT

MASS STORAGE

INTERNAL DRIVES

For Macintosh SE,II

OME 40i- 40 Megabytes

\$899.95

For Macintosh II

OME 100i- 100 Megabytes \$1199.95

\$1599.95 OME 140i- 140 Megabytes

ALL OPEN MAC DRIVES INCLUDE:

- □ 110/220V Power
- \Box < 30 millesecond access time
- □ ONE YEAR WARRANTY

We've Got It!

☐ FREE STACKWARE, & Microsoft® Excel Templates by Heizer Software.

For Macintosh Plus, SE, II

MEMORY

For Macintosh Plus

\$374

Ram II+II

RamPlus 4

Expands to 2 Megabytes RAM

Expands to 2.5 Megabytes RAM

RamPlus 2

\$874

Ram II+IIs

4 Megabytes RAM, 120ns

\$1199

\$1099

Expands to 4 Megabytes RAM NOTE: RamPlus may not be physically compatible with internal devices.

For Macintosh Plus, SE

Ram II

\$649

Ram IIs

\$699

Expands to 2.5 Megabytes RAM, Surface Mounted

NOTE: Due to space considerations surface mount is recommended for the Macintosh SE.

VIDEO

HIGH RESOLUTION COMPOSITE VIDEO **ADAPTERS**

for Mac 512, Plus, & SE Monitors & Projectors also available

For Mac SE \$149.95

For Mac512/Plus \$99.95

Monitors/Projectors Call for Quote

> VISA/MC AMEX Discover Accepted

All OPEN MAC products:

- Are Manufactured by OPEN MAC Enterprises - Are User Installable -Preserve Manufacturer's Warranty Carry a minimum 1 Year Warranty - Are stocked for rapid shipment - Are listed at a Cash Discount Price -

Credit Cards not charged until shipment

NTSC Converter

Connects your Macintosh II to NTSC video.

Record your Macintosh Graphics to Video Tape or Use for live Presentations. Compatible with Apple & Spectrum Video Cards.

GenLocking Version Available April.

CALL

VideoEx-

\$99.95

Expand the Mac II to full color capability

NEW!! The Accelerator2TM

Speed up your Mac II math processing by up to 400%!! . CALL FOR PRICING .

> Government & Institutional PO's accepted. FAX: 415-686-4244

OPEN MAC Enterprises

415/682-0440

2280 Bates Avenue, Suite J, Concord, CA 94520

Plus, Ram II, Ram II+II, VA Plus, VA SE, OME 40i, 100i, 140i are Itademarks of Open Mac Enterprises. Microsofi is a 1 is afrademark of Apple Computer Incorporated. 1987 OPEN MAC Enterprises. VideoEx, Accelerate addressed trademark of Microsoft Corporation.

Please circle 87 on reader service card.

you may like it (you may love it), but if it doesn't serve a clear and absolutely necessary role, cut it. And remember that white space isn't just empty space. It's vital. It's soothing. It's as real as anything else. Use it and respect its power.

10. Document, document.

Use dialog balloons to reveal explanations and help. And document any scripts. In fact, try to over-document. You won't, but try.

11. Details.

It's the little things. Check your stack, then check it again for stray pixels, typos, misspellings and glitches. Just because HyperCard is easy doesn't mean you don't need to be careful - full of care. If you care, it shows.

12. Get the bugs out.

Are all the bugs out? Really? Really? What about "range bugs?" If you can enter values, what if the values are extremely high? Or low? Could a user enter anything incorrectly? If they can, make sure they can't. Test and test and test. Give your stack to your friends. Offer \$25 for each verifiable bug. Put your money where your stack is.

13. Compact before uploading.

If you upload your stack to a bulletin board, compact it first. Don't make us pay for downloading dangling nothingness.

f your aunt in Tucson can't figure out what to click where, other folks will also have a tough time.

14. Don't charge.

If your stack is truly valuable, become a bona fide publisher, or find a publisher to market your product. If it's good, if it has value, you'll find a publisher. If not, it shouldn't be shareware! (You might consider Heizer Software; they have an up-and-coming stackware selection. You won't make a million, but you might surprise yourself.)

Public domain software is a great idea. Commercial software is an okay idea. Shareware is a lousy idea. Freely give, or charge what it's worth and shoulder the responsibility to support your product.

15. Make us happy.

Be wise and do good. Make us wise, make us good, make us happy. That's enough.

The Word is Out...

Absolutely AMAZING word processing program. I want it WriteNow!

Robert Forras, MacTimes

66 This is the word processor that we designed and built Macintosh for.

Steve Jobs, NeXT Inc. WriteNow feels perfect....
It's hot. Highly recommended. This is THE word processor to use if you use a Mac.

John Dvorak, San Francisco Examiner Right now, WriteNow comes the closest to delivering on the promise of future word processing.

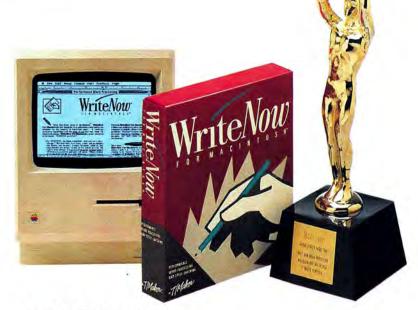
Michael Miller, InfoWorld

66 T/Maker's WriteNow For Macintosh is a polished word processor that retains the elegance of MacWrite but adds features like multiple windows, footnotes, multiple columns, and a spell checker.

Dan Farber, MacWorld Magazine

66...WriteNow adds up to a great new word processor.
...its ease of use and speed put it way ahead of Microsoft Word and MacWrite for most jobs.

Vicky Jo Varner, The MACazine



Best New Word Processor MacUser Magazine 1986



Performance Word Processing for the Macintosh

To learn more, see your local computer dealer today, or call or write to: T/Maker Company, 1973 Landings Drive, Mountain View, CA 94043 (415) 962-0195

Suggested retail price of WriteNow For Macintosh is \$175. Runs on any Macintosh.

T/Maker is a registered trademark of T/Maker Co. WriteNow is a trademark licensed to T/Maker Co.

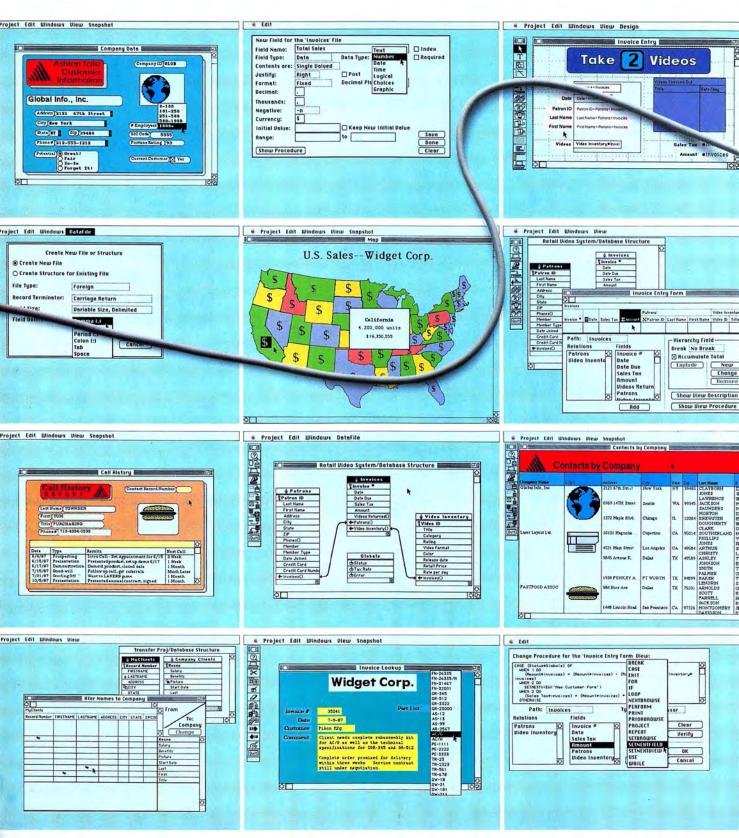
Macintosh and MacWrite are trademarks of Apple Computer, Inc.

Please circle 29 on reader service card.

Paginder 20 now streets

T/Maker.

Ashton-Tate ann powerful database ever



ounces the most used by man or mouse.

It's called dBASE® Mac.

And it's the most powerful relational database designed for the Macintosh."

Especially since, unlike other databases, you can get that power

without knowing a thing about programming.

Begin by creating and relating your files.

Not just linking them,

but relating them. So when you update one file, all your related files will be updated. Automatically. Immediately.

And remember, with dBASE Mac you can do all this without programming.

With a few clicks of your mouse, you can quickly redesign and rearrange your files to look at your data in any number of ways. Without disrupting it.

And without any programming.

Also, using the selection of fonts and MacDraw*-like tools, you can design reports from the very simple to the very sophisticated. Right on the screen. So you'll know how it looks before you print it.

We're not talking about just text and graphics. With dBASE Mac, you can incorporate photos of people, parts and places into your database.

You can even import data from Ashton-Tate's dBASE III PLUS, dBASE III, or dBASE II, as well as ASCII files.

All without programming.

And all with the help of Macintosh's on-screen prompts and pull-down menus.

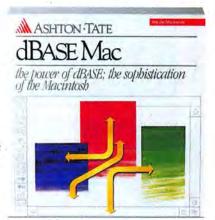
But if you want to go still deeper, the powerful dBASE Mac programming language will take you into a world of power and capability where no Macintosh has ever gone before.

If you would like a demo disk* for \$4.95,† or the name of the dealer nearest you, call (800) 437-4329, extension 2403,†† You'll see how this Ashton-Tate relational

database will make your Macintosh office work smarter.

Whether you are a huge organization.

Or a onemouse shop.





MacCalc

Speed, Style, Simplicity



MacCalc is the fastest spreadsheet you can buy, and More Speed gives you Greater Productivity.

"Amazingly speedy...[MacCalc] runs faster than Excel." — *InfoWorld, November 3, 1986* "Special routines in MacCalc make operations such as entering data and recalculating, opening files, scrolling...faster than Excel." — *Macworld, December, 1986*



MacCalc is easier to use and learn than any other spreadsheet, and Greater Ease means Less Frustration... "Simplicity is the ultimate sophistication."

"[Working] in MacCalc is easier than in Excel." — Macworld, December, 1986

"Designed to be easy to use, and succeeds admirably." — MACazine, March, 1987

"MacCalc answers the frustration of Excel users – its carefully planned menu structure makes MacCalc exceptionally easy to use." — *MacWEEK*, *June 15*, 1987 "Simplicity and ease of use are MacCalc's greatest assets...[seen in] the richness and ease of use embodied in its user interface." — *MACazine*, *November*, 1987



ノ ^f

MacCalc is the only spreadsheet which allows each cell to have its own format, font, size, and style – allowing high-impact, desktop publishing quality output, and Greater Clarity creates Dramatic Presentations.

"MacCalc offers [the most] flexibility in page and font setup, and has the most printing options." — *Macworld*, *December*, 1986

"MacCalc lets you dress up your spreadsheet..." — Publish!, June, 1987

"MacCalc's formatting features allow your spreadsheet to look more like pages from a finished report...brings the concept of publication-quality spreadsheets closer to reality." — *InfoWorld*, *June 22*, 1987



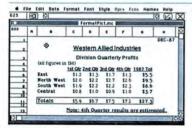
At \$139, MacCalc provides the greatest value at about 1/3 the price of Excel.

"The clear value leader." — InfoWorld, November 3, 1986

"MacCalc is a spreadsheet package of exceptional value." - MacWEEK, June 15, 1987

"The best deal in a spreadsheet package that I've ever come across,

bar none." — MACazine, November, 1987



The Best Spreadsheet - MacUser Editor's Choice Award

"It's faster than either Multiplan or Excel, and once you move [to MacCalc], you're not going to want to move back"

- Macintosh Buyer's Guide, Summer, 1987

"...MacCalc is a must-have. The product itself is highly functional, easy to learn and to use, and definitely supports the most visually appealing formatting/printing capabilities." — *MACazine*, *November*, 1987, "If you are interested in attractive output and value, MacCalc is the spreadsheet for you." — *InfoWorld*, *June 22*, 1987

Some of MacCalc's special features:

- Minimal recalculation[™] technology for great speed
- Natural, powerful editting commands combined with easy to use interface
- Full choice of format, font, size and style in each cell for DTP quality output
- · Variable row height and column width
- Cell notes, for audit trails and self-documenting worksheets
- On-Line Help
- Full Undo command
- Reads and writes WKS models (from Lotus 1-2-3 or Excel) and SYLK data
- Paste formatted tables from MacCalc directly into MacWrite or PageMaker documents
- Database sort, search, and fill commands
- Full desk accessory (DA) support and Switcher-compatibility

THE BOTTOM LINE: You can buy the slower, more difficult, overprised, over-featured product from the competition, or you can buy MacCalc, the best spreadsheet for your real needs, for \$139.



Bravo Technologies, Inc.

For technical, corporate, or dealer information, please call 415/841-8552. MacCalc is available at better dealers everywhere. To order MacCalc directly for \$139 (plus tax in CA), please call our order desk at 800/345-2888 (orders only, please), and have your VfSA or MasterCard ready, or write. (Purchase orders cannot be processed.) Bravo Technologies, Inc., c/o DPAS P.O. Box T. Gitroy, CA 95/021-2249. MacCalc® is a registered trademark and minimal recalculation™ is a trademark of Bravo Technologies, Inc. Other product names mentioned above may be trademarks of their respective manulacturers.



by Dan Cochran

Answers From the Mac Team

Got a Mac problem? Something that you'd like explained? Something you can't find the answer for anywhere else? Apple's Dan Cochran will answer your questions every month in this space. When the questions are too tough for him, he'll get the answers from other members of the Mac team. So ask what you need to know and get your answers straight from the source!

Send your questions to Dan care of Mac-User, Suite 250, 110 Marsh Drive, Foster City, CA 94404. Dan will read all of your questions, but, unfortunately, he may not be able to answer individual queries.

SND'S AND HYPERCARD

I have both SoundCap and Sound-Wave from Impulse and their sound digitizer. I also have ResEdit 1.1d4. I know how to create digitized sounds using this hardware and software. My question is this: How can I turn a digitized sound that I have created into a resource that I can put into a Hyper-Card stack?

DAVID WATSON MONTGOMERY, AL

If you have a modem and a CompuServe account, browse through
the HyperCard Data Library in MAUG's
MacPro forum (it was DL8 at press time;
if you can't find it, a LN command should
provide a list that includes it). At my last
count there were at least five HyperCard
stacks that will translate SoundCap digitized sounds into HyperCard-compatible
resources.

You could also order the "HyperCard Technical Reference Package" from APDA (#KMBHTL). It includes a SoundCap Mover stack that will accomplish the same thing. SoundCap Mover, as well as the stacks on CompuServe all call a HyperCard XCMD that strips the SoundCap header and replaces it with the header expected by HyperCard. The APDA product also contains the C source code for the conversion XCMD.

Both non-HyperCard snd (Format 1)

and HyperCard-compatible snd resources (Format 2) are documented in the draft version of Inside Macintosh, Volume V, also available from APDA. Documentation for Format 2 snd resources is not in earlier versions of Inside Macintosh.

You can check to see if a snd resource is Format 1 or 2 by using ResEdit to look at the first word of the resource (\$0001 = Format 1, \$0002 = Format 2). All snd resources that come with the new Multi-Finder System software are Format 1. And future versions of the Sound Manager will somehow manage to mitigate this format differentiation.

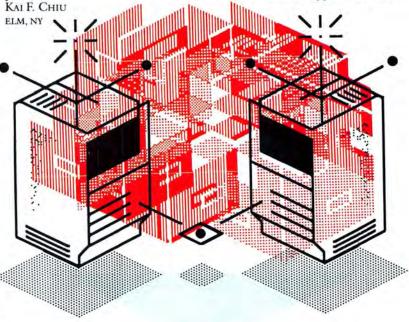
HP LASERJET

I hope you can help me. I've been getting the runaround and paper promises. Is there anything out there that can link up my Macintosh II to my HP LaserJet Printer? What happens if I simply hook up the cables without the necessary software? All I want to print is simple text.

As you know, the HP Laser Jet is a non-PostScript printer but will understand and print ASCII characters. As such, one might expect that with a proper cable, a user could get by with the standard Image-Writer driver by printing in draft-mode only. Macintosh draft-mode printing does send ASCII characters for text but the ImageWriter driver uses special microstepping instructions for Image Writer paper-positioning and line feeds, even in draft mode. The LaserJet wouldn't know what to do with these stepping instructions. You'll need one of the special drivers mentioned above, not only to properly handle line feeds, but to take advantage of other LaserJet features such as font selection.

RESOURCE OVERRIDES

I own a Macintosh 512K and a Macintosh SE. When I booted a disk on my SE which I had created on my 512K I got an unpleasant surprise. The disk contained its own complete System folder and an application that I have



A You can obtain the necessary software drivers to hook up your Laser-Jet and Macintosh II in either of the following packages:

ProPrint, by Creighton Development 16 Hughes St. Irvine, CA 92718 (714) 472-0488

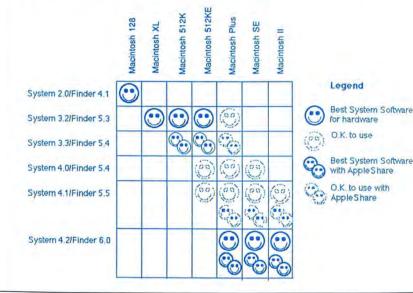
LaserJet, by Softstyle 7192 Kalanianaole Highway, No.205 Honolulu, HI 96825 (808) 396-6368 been working with for a long time. I had used *FONTastic* to customize some of the characters in the fonts that are required for *System* use (Geneva, Monaco and Chicago). It worked fine on the 512K.

When the application opened on the SE I found my custom characters were replaced by the normal characters for those fonts. I rechecked my on-disk fonts and found that they still contained my custom characters. Where did the normal font characters come from? I can only assume from ROM.

THE INFAMOUS CHART 2

ported hardware configurations. The word Chart 1.

Whenever Apple releases a new System "supported" is important; Apple no longer and Finder they also prepare a chart show- supports all hardware configurations. ing which versions of the System and Find-Here is the chart that covers the recent Syser should be used with their various sup- tem Software Update 5.0. There is no



I have three questions:

1. Are these "Required for System Use" fonts in ROM? If so, what other fonts does ROM contain?

2. Is there any way to have my on-disk fonts automatically used instead of the ROM fonts when I boot my special disk?

3. If these fonts are in ROM, how do I get them out of my on-disk System font file where they only waste disk space?

I would hate to think that the quadrupled ROM on the SE (256K now, 64K then) is used to make the machine more restrictive and less user definable and versatile

DENNIS J. ANDERSON TOMS RIVER, NJ

Here's the situation: 1. The old • 64K ROMs only contained Chicago 12. The newer 128K ROMs on the Macintosh Plus and the 256K ROMs on the Macintosh SE and the Macintosh II contain Chicago 12, Monaco 9, Geneva 9 and Geneva 12. In addition, the Macintosh II ROMs contain an expanded multiple-bit version of Chicago 12 to improve speed in 4-, 16- and 256-color modes. The ROM-resident FONT resources are over-

DEFORMED

Forms deformed? If producing a presentable form has always been a formidable task, you'll appreciate the scene on the far right. It's TrueForm™—the first and only Macintosh™-based system that lets you deftly deal with any form you feed it.

TrueForm is not just another forms software package, although it does offer you a choice of 30 readymade forms to use. And it's not just a design-your-own-forms program, yet it lets you do that, too.

If you fill out lots of forms, lots of different kinds of forms or forms supplied by other people, TrueForm will transform your working world.

Feed any form into TrueForm's Image Scanner, and it's transmitted to your screen. Complete with logo and graphics. In seconds.

olicy Term From 12:01 A	Mar 3,86 to	3/31/8		cy Tai	Spactro	m Apendy	Į.
COVERAGE BOUND?	TYES THO	27,347		TION M	diagn.	et	-
ame of applicant; (Please ty		A 125.00	OF AR	1		F	
ddress 124 Main St	Cey Ind	ann.	Code NT	53704	-		٠.,
ounty DanE	Township i	Rural Roune			Tel. Nun	ber 555-1	212
lenholden: Vehicle #1	First National	Bank Ve	high #2	N. 1			
COVERAGES AS DEFINE	D LIMITS/DEDU	TIBLES	Auto 1	Auto 2	Rate Facto	e Total	
Bodly Injury	100/300	/50			1		1
Property Damage	50000	0.0	- 1	-1	200		1
MEDICAL PAYMENTS	100000				- P		1
COLLISION	lave						1
Description of vehicle(s): Car Year Trac		lody Type	-	Serial Fau	-	Actual Cost	1
	Tent	BLOSER	177.350	SO/VB	789-22	100000	٠,
1 07 Cafrai			100	i - Ad	9.4 TO . 17		
2 Cod openi Picpeci vehicle(s)1		No no	123	150 A	20 81-22	T INSPEC	1
		планоча	17.77	50\va	Anderen	100000	٦

Next, you teach your computer how to fill out the form. You can supply information from your keyboard, or merge information from any database, or use TrueForm as an incredible forms-oriented spreadsheet.

Then print your perfect form with your LaserWriter® or ImageWriter®. Print the information on an original form. Or produce the entire completed form—graphics and all—on blank paper. Eliminate the problem of obsolete or out-of-stock forms inventories. Plain paper may be the only form you'll ever need again!

TrueForm makes it easy to set up a form, choosing the type font, size and style for each field. And with TrueForm you can capture and store both the forms you use and the data on them. Recall and reuse them. Save hours every day.

r f these fonts are in ROM, how do I get them out of my on-disk System font file where they only waste disk space?

riding your System FONT resources.

2. Yes, there is a way to override ROMbased resources, but you should only do so if it's absolutely necessary and you understand the situation completely. The Resource Manager chapter in Inside Macintosh, Volume IV, explains how to override ROM resources but leaves out a few details that I'll attempt to fill in.

When you start up your System, or whenever InitResource is called, a ROM resource map is rebuilt. The Resource Manager checks the System Resource file for a ROvr resource with an ID=0 (this resource is already contained in the latest SE and Macintosh II System files). The ROvr ID = 0 resource gets loaded, executes and looks back to the System Resource file for all resources of type ROv# whose version word matches the version word of the ROM currently in use. The version IDs of 117, 376 and 630 correspond to the MacPlus 128K ROM, the Macintosh II 256K ROM and the Macintosh SE 256K ROM, respectively.

You can use ResEdit (versions 1.0 and greater contain ROv# templates) to add the appropriate ROv# resource to override a ROM-based font and substitute it with your own custom disk-based font.

Open up your System file using ResEdit and select and open the ROv# resource types. You'll find three predefined sets of ROv# resources which correspond to the three version numbers described above. Since you wish to override an SE ROMbased font resource, select and open ROv# resource type 630. A ResEdit template will present the ROv# resource format. Click on the first vertical line of asterisks which separate the version number and resource count fields from the resource types and IDs. The asterisks will highlight and you

can then select NEW from ResEdit's File menu. Do this for as many font resources as you wish to override. Now it's simply a matter of filling in the template blanks with the appropriate resource types and IDs. For instance, if you wanted to override the ROMbased Chicago 12, you would fill in the template's resource type field with FONT and fill in the corresponding resource ID field with 12. You can ascertain the correct resource ID for each font by using ResEdit to look at all FONT resource types in your System resource file.

One last word of caution. I might be superstitious, but I never feel quite comfortable using ResEdit under Multi-Finder. I prefer to hold down the Command key, and boot up into the standard Finder before ResEdit sessions. By the time you read this we'll probably have a Multi-Finder-friendly version of ResEdit.

3. It can get pretty tricky trying to use-Font/DA Mover or even ResEdit to discard disk-based versions of ROM-based fonts, especially when they have the same name and resource ID. The ROM-based fonts are not present in the latest and greatest Macintosh SE and Macintosh II System file (at the time of this writing,

TRUEFORME

The TrueForm system consists of the TrueForm software package, Image Scanner, MacScan™ software and

cables. It's complete and ready



You can buy the TrueForm software separately for \$495, and design your own forms with any of a variety of Macintosh graphics programs. Or Spectrum Digital Systems will scan your forms.





2. IS COVERAGE BOUND? YES NO

Name of applicant: (Please type or print) Joe Gofast City Madison Zip Code NI, 53704 Tel. Number 555-1212 Township If Rural Route 4. Lienholder: Vehicle #1 First Mat'l Bank _ Vehicle #2 COVERAGES AS DEFINED A. LABILITY Bodily Injury 100/300/50 500000 MEDICAL PAYMENTS 1000000 COLLISION

TrueForm works with the Apple® Macintosh 512E, Macintosh Plus, Macintosh SE, and Macintosh II. (Scanner requires a SCSI interface.)

Don't deform another form.

Reform today with TrueForm, from Spectrum Digital Systems.

To order, or for a free full-color brochure, call toll-free:

(800) 541-6661



2702 International Lane Madison, Wisconsin 53704-3122 (800) 541-6661; (608) 244-4300 (in WI)

Spectrum Digital Systems, Inc. and TrueForm are trademarks of sectrum Digital Systems, Inc. MacScan is a registered trademark of New Image Technology, Inc. Apple, Macintosh, Image Writer and LaserWriter are trademarks of Apple Computer, Inc. © 1987, Spectrum Digital Systems, Inc.



Version 4.2). If you use System 4.2 as the starting point for all of your disk-based system files you won't have to worry about ROM/disk font redundancy.

EXTENDED KEYBOARD

I bought a Macintosh SE recently. When I did, I got the Apple Extended Keyboard. When I got everything unpacked, I found no documentation at all for the extended keyboard. What can I do with my extended keyboard and is there any documentation available? SCOTT J. WILSON

We developed the Apple Extended Keyboard for those users who: 1) intend to use their Macintosh II or Macintosh SE with an MS-DOS coprocessor card and require function-key compatibility with existing MS-DOS applications; 2) prefer the option of being able to assign function keys to commonly used mouse, menu or multiple-keystroke operations; or 3) simply like the feel, power and flexibility of a larger keyboard.

For those users in the first category, the Apple Extended Keyboard function keys will automatically map to MS-DOS applications that already require or expect function key input.

By the time you read this, Apple should have released their previously announced Keyboard Macro program, which will allow a user to assign either a single or complex series of input events to a specific function key. This program will be available from dealers, electronic services and usergroups and will eventually be rolled into the next System Software Update product.

Other options include Tempo from Affinity Software and QuicKeys from CE Software. Both of these products allow you to customize your Extended Keyboard to suit your own preferences and define function key sequences for specific applications only or globally for all applications.

Other commonly asked answers about the Extended Keyboard:

1. Function Keys F1 through F4 are labeled, respectively, Undo, Cut, Copy and Paste. These are not predefined values so don't be too surprised if they don't work as you'd expect. We are, however, encouraging application developers to adapt this standard as well as to utilize the remaining function keys whenever appropriate.

2. The Caps Lock LED is operative in the

Macintosh environment. The Num Lock and Scroll Lock are only operative in the MS-DOS/Coprocessor card environment. Future Macintosh applications will, however, be able to utilize them.

MFS/HFS PROBLEMS

I am writing for your help in dealing with a problem I've run into with Word. I have a Macintosh Plus with a 20-megabyte Apple hard disk. When I try to save a document I have created with Word using either the SAVE command or by clicking on the document's Close Box, I am unable to access any of the folders I use to store these documents. Instead, I get a listing of all the individual documents on the hard disk.

If I use the same Microsoft program by booting it into the Macintosh with the hard disk turned off, I do not have any of these problems.

RICHARD J. SAGALL BANGOR, ME

A From your description of the problem, it sounds like you have old MFS System software installed on your hard disk (most likely a System 2.0 and



-MacWorld

Object Logo

From Coral Software, the developer of the first full Common LISP for any microcomputer, three languages that bring symbolic programming to the rest of us:

Allegro Common LISP, Coral LISP and Object Logo.

LISP and Logo, two of the most advanced programming languages in existence, are now available on the Macintosh in inexpensive, highquality implementations.

Allegro CL is the first and only implementation of the Common LISP standard for a microcomputer. It extends Common LISP standard from mainframes to the Macintosh. It's an indispensible tool for AI research and application production.

Coral LISP and Object Logo offer ideal environments for education and for exploration into the field of Artificial Intelligence. They are already in use at the Apple Vivarium project.

at the Apple Vivarium project.

Each of Our Languages Offers:

object-oriented programming system with multiple inheritance
 fast incremental native-code compiler with dynamic linking

high-level Macintosh interface tools

Apple is a registered trademark of and Macintosh is a trademark licensed to Apple Computer, Inc. Object Logo, Coral LISP are trademarks of Coral Software Corp. Allegio CL is a trademark of Coral Software and Franz, Inc.

advanced symbolic and list processing capabilities • advanced math package: bignums, ratios, complex numbers • debugging tools: source-code stepper and trace facility • multi-window integrated editor • interactive, low-level Macintosh Toolbox access • excellent documentation, with complete cross referenced index and comprehensive example.

Additional Features: Allegro CL • File compiler • Window-based inspector • Integrated programmable editor • Modest memory re quirements: 1MB RAM, 1.6MB disk storag Coral LISP • File compiler • Dialog object • Full lexical closures • Dynamic variable Object Logo • Turtle graphics with multiple, object-oriented turtle:

To order, call or write: Coral Software, P.O. Box 307

Cambridge, MA, 02142; (800) 521-1027, in MA, (617) 547-2662

Object Logo can be yours for \$79.95. Coral LISP is available for an introductory, price of

· Macintalk objects · Apple Logo

\$79.95. Coral LISP is available for an introductory price of \$99.95. And Allegro CL sell for an unbelievably low \$599.95

Cora

Coral Software: Where Limitations Are Left Behind

Please circle 106 on reader service card.

Put 100MB into a Macintosh SE...

and keep both floppy drives.

25ms average access time, low power consumption, 100g non-operating shock rating, easy to install and quiet operation.

40 MB Subsystems also available.

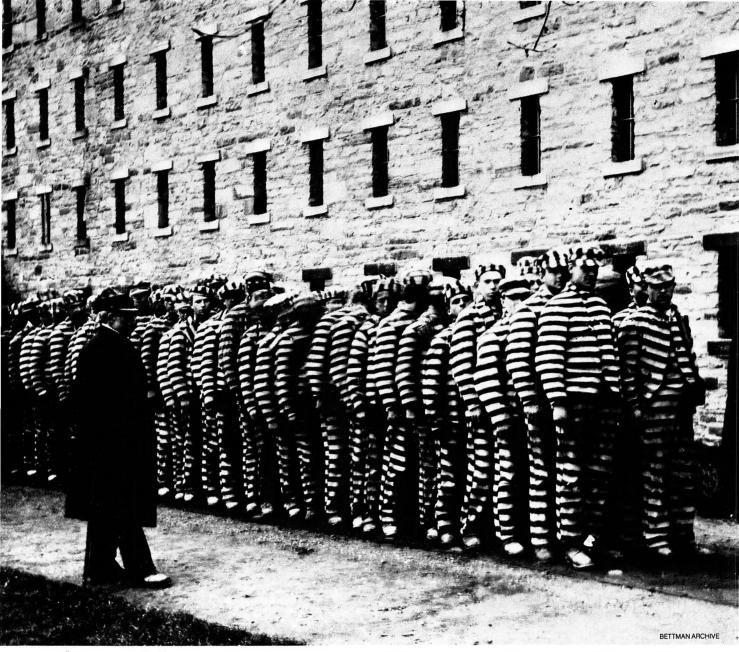
CMS offers a complete family of fast internal and external hard disk and tape backup subsystems for Macintosh computers.





CMS Enhancements, Inc. 1372 Valencia Avenue, Tustin, CA 92680 (714) 259-9555 Telex (023) 371-8711 FAX (714) 549-4004 Proud member of
The Microcomputer
Industry Association

Macintosh is a registered trademark of Apple Computer Corporation. CMS logo is a registered trademark of CMS Enhancements, Inc.



HELP YOUR DESIGNERS ESCAPE FROM THE PEN.

Waiting for a pen plotter to finish its job is nothing short of cruel and unusual punishment.

So if your plotter has you doing time, we suggest the JDL 850 GL+ printer/plotter.

It'll handle any chore a pen plotter would. With one arresting difference: you can now get 2-D or 3-D color hard copy—on A to C-size media—up to five times faster.

Which means with the 850 GL+, you'll zip through intricate design drawings, architectural renderings, and job-specific CAD applications at breakneck speed. All with the compatibility of the HP-GL command set and a variety of H-P plotter configurations.

One more liberating thought: the 850 GL+ costs about half the price of an equivalent pen plotter. All of which means the choice is really simple. You can opt for the pen and face countless hours at hard labor.

Or you can spring an early release with the 850 GL+.



WEST: (805) 495-3451 EAST: (704) 541-6352 2649 Townsgate Road, Suite 600, Westlake Village, CA 91361
Nationwide service by **BRUNING** HP-GL is a trademark of Hewlett-Packard Corporation

Finder 4.1 combination). Prior to the release of System 3.2/Finder 5.3, file folders were nothing more than a visual illusion to assist users in organizing their disk volumes.

The old MFS file system software knew nothing about folders, only files. This explains why your standard file dialog only presents you with a list of the individual files on the disk. It also underscores the importance of keeping current with the latest releases of System software.

You should obtain a copy of the latest System Software Update (Version 5.0) from your local Apple dealer. The price is \$49 and well worth it, considering the documentation and utilities that are included. Because you will be installing the new HFS file system over an old MFS volume, you should first carefully back up all of the documents, applications and data files that you wish to save onto disks. With your hard disk powered on, boot up from the Macintosh System Tools Disk that comes with the 5.0 update. Select the hard disk icon on the desktop and choose ERASE DISK from the Finder's Special menu.

Then follow the new System software installation instructions in the 5.0 Update

manual. Finally reload your backed-up files onto your hard disk (don't drag the old MFS folders to your hard disk — just the files). You can now create new "real" folders on your hard disk and organize your documents within these folders.

MIDI CONNECTOR

I recently purchased a Macintosh * SE, mainly for musical applications. Unfortunately, neither my dealer nor even Apple itself have any clear idea as to which MIDI interface I need. I am looking for the hardware, not the software. Can you help?

DAVID HARRISON ANCHORAGE AK

At the January Macworld Expo in San Francisco, Apple announced an Apple MIDI Interface adaptor for all Macintosh and Apple IIGS computers. The Apple MIDI Interface is an Apple-Talk-sized external connector that hooks up to your Macintosh or IIGS via the standard serial ports. The adaptor is compatible with all existing MIDI Macintosh software and most existing Apple IIGS software (Apple IIGS software designed

for use with a MIDI interface card instead of the serial port will require modification).

Features include one MIDI IN and one MIDI OUT connection and an opto-isolated MIDI IN input to eliminate ground loops and other noise. All necessary cables are included for Macintosh II, SE, Plus and Apple IIGS machines. If you have an older Macintosh 128K or 512K machine with the DB-9 serial ports you'll have to purchase an adaptor cable (Apple Part Number M0196). No power supply is required. Your local Apple dealer should have had them in stock by the end of January and the suggested retail price is approximately \$100 to \$125.

RTFM

Two weeks after purchasing a new Macintosh Plus, I encountered a small glitch and wondered if you had also seen it and could provide me with some guidance. After the System is on and the desktop in place, moving the mouse while depressing its button produces an open box which disappears when the button is released. The manner in which the box is formed is identical to that used for creating boxes in graphic

MAND-EZE - GUIDE for Mic



When your surge protector fails will your insurance save you? SAFEWARE's computer insurance covers power surges, lightning, theft, fire, accidental damage and more! Full replacement of hardware, media and purchased software for as little as \$39 per year.

Total Value, Hardware, Media & Purchased Software	Annual Premium
up to \$2,000	\$ 39
\$ 2,001-\$ 5,000	\$ 69
\$ 5,001-\$ 8,000	\$ 89
\$ 8,001-\$11,000	\$109
\$11,001-\$14,000	\$129

For immediate coverage, information and rates on higher coverages, call

1-800-848-3469 In Ohio call 614-262-0559 On Compuserve, GO SAF

SAFEWARE)

SAFEWARE.

The Insurance Agency Inc. 2929 N. High St., P.O. Box 02211, Columbus, OH 43202

Please circle 150 on reader service card.

Spend Your Time Using Your Macintosh Software... Not *Learning* It!

With the complexity of today's Macintosh software, you have two choices. You can slave over confusing, hard-to-follow manuals. Or you can use COMMAND-EZE™ GUIDES which provide thorough, concise instructions. You'll also discover those "special" features buried in the manuals. COM-MAND-EZE™ GUIDES save time-and increase the value of your software. Get the guides used by corporations, universities and professionals!

- New users get up to speed quickly
- Experienced users learn new features
- Avoid memorizing hundreds of commands
- Step-by-step instructions—no guess work Organized alphabetically for instant use
- Excellent design enhances readability Stores easily, 8½"×11" 3-hole punched
- Highest quality non-glare laminated vinyl
 - MICROSOFT EXCEL
 - MICROSOFT WORD 3.0
 - MICROSOFT WORKS

New for the Mac!

To order, send your name, address and check for \$14.95 for each COMMAND-EZE GUIDE plus \$1.95 shipping per order. Or charge to your VISA/MC by sending complete card number and expiration date. 30-day money-back guarantee.



Round Lake Publishing Co. Dept. MU3 415 Main St. Ridgefield, CT 06877 (203) 438-5255

applications such as MacPaint and MacDraw. The production of this box outline occurs only between commands while the mouse is dragged with the button depressed. There appears to be no effect on System applications or program execution. Restarting the System with different disks, including the hard disk, and disconnecting it from power along with battery removal has had no effect in correcting this problem. I would appreciate any assistance you can provide.

BEN VINCENT ATTLEBORO, MA

Before you completely diasassemble
your Macintosh may I refer you to
pages 33 to 35 of your Macintosh Plus
Owner's manual. The phenomenon you describe is simply a selection box (just like the
selection box in MacDraw) that allows you
to select more than one icon at a time. If you
position the cursor outside one corner of a
group of icons, and click and drag the
mouse to the opposite corner, you'll notice
that all of the icons within the selection box
become highlighted or selected. At this point
you can move them as a group into a folder,
into the trash, onto another disk or to an-

other place on the desktop. Don't fret. It's all part and parcel of the Macintosh user interface.

UPGRADE PATHS

I own a Macintosh 512K and I am planning to buy an SE within the month. I thought that instead of just doubling my RAM, why not go all out and get 2 or 4 megabytes installed? (I'd like to keep the SE's expansion slot open.) My Apple dealer told me that Apple does not offer this option. He said the Mac is designed for optimum performance at 1 megabyte of RAM, and that any more memory seriously impairs the software and hardware workings. He also noted that memory expansions are not treated by the computer as free memory, but as large RAMdisks. The salesman then proceeded to tell me some horror stories of people he knew who took the expansion route. They had to modify up their motherboard, and in the process, void the warranty. Then, with the job completed, the expansion did not work as expected (i.e., just a large RAMdisk).

Please end my confusion Why doesn't Apple offer this option? Does the expan-

sion work as free memory (I don't want a RAMdisk)? Are the chips user installable (I'm an electronics engineer)? Is it worth the money?

JAY GOODMAN KISSIMMEE, FL

If your dealer is talking about upgrading your 512K to 2/4 megabytes with third-party upgrade kits he's partially right. Third-party RAM upgrades for 128Ks, 512Ks and 512KEs have often been nightmares. In this day and age the only proper upgrade path for a 128K, 512K or 512KE machine is a complete Macintosh Plus upgrade. This involves a swap of the motherboard, and is only available from Apple. You'll then be able to easily install up to four 1-megabyte SIMM chips to bring your newly upgraded Macintosh Plus to a total of 4 megabytes of memory.

Apple actually does offer SIMM chip upgrades in 2- and 4-megabyte increments. There are also SIMM-based RAM upgrade kits available from third-parties such as Dove. SIMM installation is a simple process that requires no tools other than the special tools required to open up your

TWO WAYS TO MAKE WORKS

From Lundeen & Associates

THE FASTEST
SPELLING CHECKER
FOR MICROSOFT®
WORKS.





Designed by Tim Lundeen,

Macintosh. And all the RAM is true RAM, although the user can, of course, decide to set aside some of it for a RAMdisk.

If, however, your dealer is telling you that your SE can't be upgraded beyond 1 megabyte, he has at least one oar out of the water. To say that the Macintosh SE is designed for optimum performance at 1-megabyte is easily one of the most ridiculous statements I've ever heard. Like the Macintosh Plus, the SE can easily be expanded, via SIMM upgrades, to 4 megabytes. And with the new MultiFinder System software, that extra memory really comes in handy.

My recommendation to you? Buy your SE with 1 megabyte of memory, sell your Macintosh 512K in the paper, and use the revenues to help finance a 2- or 4-megabyte upgrade. And, yes, if you buy third-party SIMMs, you'll be able to easily install them yourself. If you buy Apple SIMMs, your dealer will install them as part of the package.

MULTIPLE BINS

I want to set up a small law firm with a network of SEs. The problem is printing, or more specifically, how to get the three types of paper we routinely use into a printer.

How do you produce a two-page letter where the first page goes on engraved letterhead and the second page goes on blank letter-size bond paper and then print out a pleading on legal-size paper using a Macintosh? We previously used Sony word processors with a Sony printer and a two-bin sheet feeder. Bin one held letterhead while bin two held legal-size blank bond which was cut off with a paper cutter when used for the second page of a letter.

Even a system such as that would be OK, but everyone says we can't even get that far with a laser printer. We have been told that we would have to manually change the paper tray to change size. This won't work with our volume.

KENNETH J. SMITH MIAMI, FL

A company called BDT manufactures a multiple-bin feeder for the Apple LaserWriter. The BDT LaserFeeder bin provides two additional paper bins and one envelope bin to its host printer. BDT provides a special LaserWriter driver that allows the user to specify the desired bin, or to request that the first page of a document be printed from one bin, and that subsequent pages be printed from another. You can contact BDT in Herkimer, New York at (315) 866-1244.

You might also consider an Image-Writer LQ from Apple. The ImageWriter LQ is a 27-pin wide-carriage dot-matrix printer that can produce black-and-white or color output in three different levels of print quality. The three printer qualities are draft (ASCII), near letter quality (72 X 72 dpi), and letter quality (216 X 216 dpi).

Optional accessories include a sheet feeder (which can have up to three paper bins) and the AppleTalk card which allows the ImageWriter LQ to serve a workstation

If sheet feeder bins are installed, you can also select the bin for the first page of a document and the bin for the remaining pages. However, those applications that treat each page as a separate document (Word, for example) will not be able to take advantage of this feature, since each page will be seen as "Page" of a new document.

WORK EVEN HARDER.

It zips through your finished documents five times faster than any other spelling checker—at about two pages per second. Or if you prefer to check each word as you type, WorksPlus Spell will do it without slowing you down.

There's a 73,000 word dictionary at your fingertips. Plus you can customize both the standard and document dictionaries by adding or deleting words.

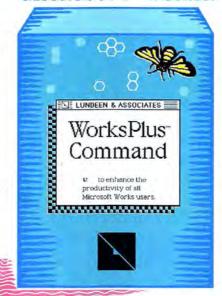
Spell even has a glossary for frequently used phrases, and an automatic hyphenation feature.

All this is combined in a package that's exceptionally easy to use and fully-integrated with Works. And that puts time on your side.

©1987 Lundeen & Associates. WorksPlus is a registered trademark of Lundeen & Associates. Microsoft and the Microsoft logo are registered trademarks of Microsoft Corporation.

one of the principal developers of Microsoft Works.

THE MOST
POWERFUL MACRO
PACKAGE FOR
MICROSOFT® WORKS.



Put an end to tedious, repetitious typing with WorksPlus Command.

The pre-programmed commands allow you to perform entire sets of functions with a single keystroke. Select a style rule, generate a table of contents or index, perform global search and replace and more.

You can even print multicolumn labels from a database.

Command can also be used to create your own personal commands simply by recording keystrokes or mouse clicks. Plus there's a full programming language so you can further extend and customize Works.

And since Command adds menu items directly to the Works program, it becomes part of it, working as the

perfect software partner.

Lundeen & Associates P.O. Box 30038 Oakland, CA 94604

Please circle 173 on reader service card.

Nothing gets the jobs done

Some people never know where their next job's coming from. That's why there's Microsoft® Works, the winner of five major awards—including Macworld's 1987 and MacUser's 1986
Integrated Product of the Year awards.

Microsoft Works is a one-disk

Microsoft Works is a one-disk software program that gracefully integrates:

Word processing, for writing memos, reports, presentations.

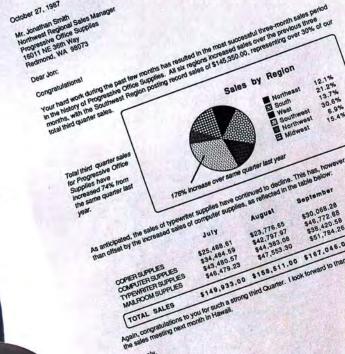
A database tool with reporting, to keep track of clients, jobs, vendors.

A spreadsheet with charting, to compute, analyze, interpret,

and then graph anything to do with

finance or numbers.

Finally, a communications tool which lets you get stock quotes, make travel reservations, do research, and send



reports across the country, right over the phone lines.

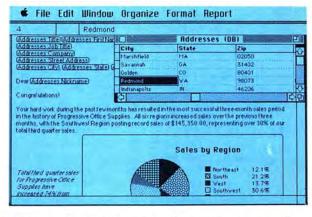
Microsoft Works is seamlessly melded together. You can have all four tools on screen at once. Jump instantly

ike Microsoft Works.

from one to another. And later combine work done in each part of the program on a single

printed page.

This easy exchange of data makes jobs go faster and much, much easier. (Like form letters where you need to combine names from the database



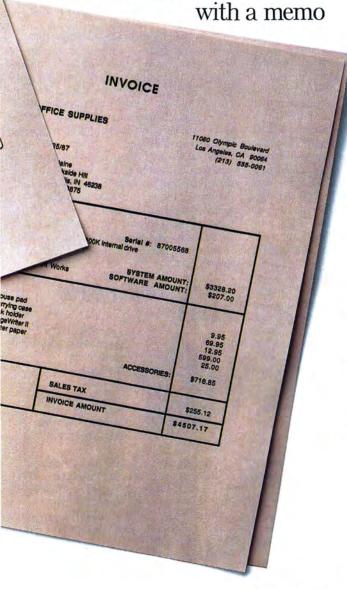
written in the word processor.)

Learning Microsoft Works is a snap. It starts with a painless, step-by-step, computer-based training program. Before you know it, you know it.

All in all, Microsoft Works is a superb solution for day to day, getit-done problems—an inspiring display of convenience, efficiency, and utility.

And of course, it's a product of Microsoft, the preeminent developer of programs for the Macintosh.™

If you're in a business that won't let you stick to one thing, check out Microsoft Works—the program that can change jobs as fast as you do.



Microsoft Works. For everyone.

For the name of the nearest Microsoft dealer, call (800) 541-1261, Dept. D33

Microsoft is a registered trademark of Microsoft Corporation. Macintosh is a trademark of Apple Computer, Inc.



QUICK CLICKS

Quick Clicks are short reviews of released products, not beta release, prerelease products or vaporware. If it appears here, it is available commercially. Products reviewed here will often be the subject of a longer review in a future issue.

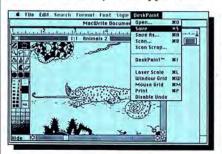
DeskPaint \$\$\$1/2



List Price: \$59.95.
Published by Zedcor,
4500 E. Speedway,
Suite 22, Tucson, AZ
85712-5305. (602)
881-8101. Not copy
protected.

Headlines are in place; text is neatly formatted into columns. All that remains is to paste in that graphic you created last week. Of course, this is when you remember that you wanted to fix some detail in your art. If you use your Mac for those tasks popularly known as desktop publishing, this has probably happened to you.

You could Quit and return to your Paint application to make the correction. Or, you could slide over to the Apple menu and call up *DeskPaint*, a desk accessory that gives you much of the power of a second generation Paint program from within a page layout program or, for that matter, any other application.



DeskPaint can also be used as a standalone Paint program. In fact, it can be launched as such by copying the Desk-Paint icon onto disks that have the DA installed. Used in this manner, it manages memory more efficiently and permits you to work on larger files. However, I wouldn't be inclined to trade in my copy of Graphic Works 1.1 or SuperPaint just yet.

Most Mac users will be familiar with the tools on *DeskPaint*'s palette. There you specify the size and shape of the brush, line and eraser. But be careful with eraser sizes. In magnification mode the tool's active area can be significantly larger than it looks on the screen. *Desk-Paint* warns you by adding little arrows to the tool but gives no indication of the extent of the possible damage. One errant mouse click can wipe out the detail you were trying to fix.

Line, brush and fill patterns are also chosen directly from the palette. There are 38 patterns always visible, and you can page through five sets. A pattern table is provided for mixing your own.

Whenever a selection is made with either the Lasso or Rectangle, the context-sensitive palette displays image manipulation tools. Selections may be inverted, flipped vertically or horizontally and rotated 90 degrees or in increments of 1.41 degrees. Mouse and keyboard combinations will increase the speed of free rotations. Selections can also be scaled freehand, proportionally or in downward (50 percent) or upward (200 percent) jumps. The LaserScale menu selection permits re-sizing while retaining resolution for LaserWriter printing.

In addition to the standard opaque graphics, *DeskPaint* supports transparent, BIC (Black is Clear) and XOR (reverses pixels beneath black pixels) modes. And it also has a Screening feature which, using patterns, lets you darken or lighten all or part of an image. However, it's mostly useful on complete images. When sections are selected, even with the Lasso, an entire selection rectangle is screened-in.

A Zoom tool steps you to 16:1 magnification or 1:16 reduction for FatBits and full-page views. A Hide button toggles the palette on or off the screen.

Finally, *DeskPaint* can import and export files in *MacPaint* or TIFF format and incorporates a browsing function which lets you page through clip art.

With all these features *DeskPaint* can be quite a useful DA. And, for the most part, it works pretty well. But, unfortunately, it is not without its little idiosyncrasies.

DeskPaint has a habit of blinking

whenever you change tools or when it redraws the screen as you complete a function. This is especially noticeable when the window grid is turned on. Then, every mouse click, whether a painting action or palette selection, causes the entire grid to blink. And when selections are moved, it flashes repeatedly. I confess to finding this characteristic annoying. Others might find it intolerable.

Also, that Window Grid is interesting. Unlike most, it is superimposed atop the image. So, if you erase a section of your drawing, that portion of the Grid disappears, to be restored when the action is completed. And the manual (nicely illustrated with digitized Durers and Raphaels) could be a bit better organized and less visually cluttered.

Of themselves, these annoyances are not totally damning, but they do drag down the program's rating. Although it does not stand up to dedicated Paint programs, *DeskPaint*'s many tools and features do make it more than adequate for those occasional cleanup jobs from within other applications. — *Carlos Domingo Martinez*

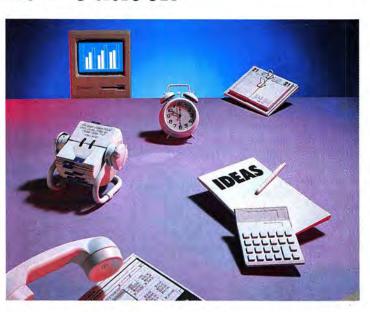
JASMINE DIRECT DRIVE



List Price: \$1159 (cash), \$1193 (Visa/ MasterCard). Manufactured by Jasmine Technologies, 555 De Haro Street, San Francisco, CA 94107. (415) 621-4339.

Jasmine Technologies has earned a reputation for producing good, fast, inexpensive hard drives. Their Direct Drive 50 does nothing to contradict that. For performance, features and value, it would be virtually impossible to beat the Direct Drive 50, and anyone shopping for a large-capacity hard drive, or anyone who has become enamored of *Hyper*-

Borland's new SideKick, Release 2.0, gives you MacPlan and a whole new Outlook



elease 2.0 includes
Outlook: The Outliner,
the "thinking" desk
accessory with more power
than a standalone outliner,
and MacPlan: The Spreadsheet,
that does formulas, straight
numbers, and also integrates
spreadsheets and graphs.

Outlook and MacPlan work in perfect sync with each other and while you run other programs!

A quick look at Outlook

It's a "thinking" tool that lets you organize, re-organize, and gather your thoughts while you write.

It helps you structure what you want to say, add, delete, change the order, change your mind, whatever.

Outlook lets you incorporate both text and graphics into your outlines and allows you to work on several different outlines at the same time.

A fast scan of MacPlan

MacPlan is a highly visual spreadsheet that pictures your numbers without numbing you with numbers.

You can do graphs like bar charts, stacked bar charts, pie charts and line graphs.

MacPlan includes 12 free example templates and lets you paste graphics and data right into your Outlook documents for professional results.

A treasure chest of useful DAs. Outlook alone, the outliner desk accessory, is worth the price of the package . . . MacPlan, the spreadsheet DA, is terrific, and it does charts.

Doug Clapp, MacUser 77

With SideKick's 11 desk accessories you can also:

- Log on to services like Dow Jones, MCI Mail, Compu-Serve, et al.
- Jot notes while you're on the phone
- Balance your checkbook
- Re-calculate the balance, hoping for bank mistakes in your favor
- Be reminded of important dates and meetings
- Edit your text files
- Write the Great American Novel with Outlook
- Do pie charts of your imminent wealth with MacPlan

Only \$99.95

10 different ways SideKick helps you make it through the day. Or night.

- ☑ Outlook: The Outliner NEW!
- MacPlan: The Spreadsheet
- Mini word processor
- ✓ Calendar
- Auto-dialing and phone logging
- ☑ Alarm system
- ✓ Calculator
- ☑ Report generator
- ▼ Telecommunications including XModem file transfer protocol

Upgrade Now! If you are one of the thousands of SideKick users, just send us your original master disk back with a check for \$34.95, and we'll rush you a brand new SideKick, Release 2.0, complete with manual.

Minimum system requirements: Any Macintosh with at least 512K.

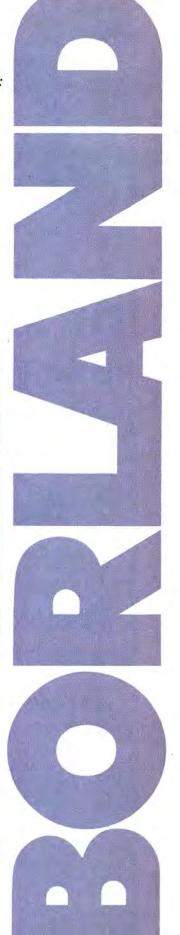
SideKick and Rellex are registered trademarks and Outlook and MacPlan are trademarks of Borland International. Other brand and product names are trademarks or registered trademarks of their respective holders. Copyright



For the dealer nearest you or to order by phone

Call (800) 543-7543

Please circle 137 on reader service card.





We Know You've Tried to Transcend

Your

FINANCIAL MANAGEMENT Problems...



QUICK CLICKS

Card, would do well to give this Jasmine serious consideration.

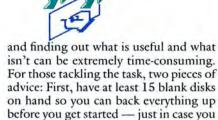
Like its big brother, the Direct Drive 80, which Robert Wiggins recently selected as a "Pinstripe Pick" (October '87), the Direct Drive 50 is a very quiet, 1:1 interleave hard drive that, in performance, is the equal of the fastest SCSI drives available. Speed, of course, is important, but the noise factor shouldn't be overlooked. The same drive that seems perfectly acceptable at the office, or in the store, may, upon being brought home, suddenly make your desk sound as if it's in the flight path of O'Hare International. Fortunately, the Jasmine engineers have kept the Direct Drive 50's noise output to the barest minimum. In fact, if it were not for the fan's soft whir, you wouldn't be able to tell the drive was on at all. The only noticeable sound is heard when the Direct Drive is reading and writing, but these clicks provide reassurance that everything is running smoothly. This is important, because the Jasmine's operating light is located behind the unit's air filter, and unless your room is fairly dim, it's unlikely you'll be

The Direct Drive 50 comes preformatted, and can be set up in a matter of minutes — whether you read the manual or not. For those who do read manuals, the Jasmine's is excellent: well-organized and clearly written. As a bonus, the last chapter is a reprint of a useful article by Steve Costa from the "Late 1986" BMUG newsletter on file and disk recovery.

Jasmine also provides a set of utilities that includes the *HDBackup* program. Unfortunately, this is the same program Apple ships with its *System* software, and it's so painfully slow that it makes regular backing up as exciting a prospect as root canal work. You'd be much better off with a commercial product like Super-Mac's *DiskFit* — especially once you start filling up the 50 megs.

When it comes to additional features, the Jasmine is loaded. Physically, the drive is a conveniently small 10 X 10 X 2½ inches that fits neatly under a standard Mac. The rear panel includes two surge-protected, switched AC outlets, and a push-button SCSI address select switch that sets the SCSI address without software. And as with the Direct Drive 80, the heads park automatically when the unit is turned off.

The Direct Drive 50 also comes with over 9 megs of public domain and shareware software installed. This cornucopia is both a blessing and a curse, since the process of sorting through the folders



throw away something you find you

need later, and second, buy Suitcase, as

you're sure to find lots of fonts and useful DAs you'll want to install.

At less than 25 dollars per megabyte, the Direct Drive 50 is an outstanding value. It comes with a 1-year warranty on materials and workmanship, and a 30-day, money-back trial period. Considering everything it has to offer, the Direct Drive 50 deserves to be put at the top of every hard drive shopper's list. — RI



List price: \$269 for the table; \$129 for cabinet. Manufactured by ScanCoFurn, PO Box 3217, Redmond, WA 98073-3217. (206) 722-6263.

The elegance of the Mac calls out for an elegant worktable. The MacTable is exactly that. It's 30 inches deep by 60 inches wide. It can be configured to hold any Mac and is beautiful as well as functional. The basic desk consists of two beech endframes and four light gray or black plastic laminate on particleboard adjustable top surfaces. These surfaces can be angled or left flat.

Here's an example of how the table could be used with an SE and Image-Writer II. The 60-inch wide surface should be at the front and flat. The medium-sized surface (of the three remaining) should also be flat. The wider of the remaining pieces should be slightly angled up (you'll put the printer there and the angle will make the output easier to see). Finally the small, 12-inch wide panel (for the SE) should be put in the middle of the back and angled down. This tilts the Mac away from you and while it sounds strange (and looks strange at first), it's a very good position for the Mac. It makes for a very comfortable and efficient working position. Other equally good configurations for other hardware configurations are suggested in the in-

The optional cabinet is worth purchasing. It's surprisingly deep (30 inches) and is big enough and strong enough to function as a stand for any printer (including the 70 pound LaserWriter). The

QUICK CLICKS

cabinet has two good-sized open storage areas (although access to the rear one often requires moving the cabinet) and a large, shallow drawer. The drawer has a built-in divider to delimit an area for storing disks. This area also has a wooden keeper to keep the disks upright, but it never really works. Actually the whole drawer is excellent for disk storage. That's particularly true since it can be locked (the side-mounted plunger lock is included).

Both units are imported from Denmark and have the excellent quality characteristic of fine Danish furniture. Everything comes disassembled, allowing for UPS delivery.

Set aside a few hours for assembly. There's nothing particularly difficult, at least if you have a power screwdriver or an electric drill and screwdriver bits. The instructions are adequate, but could be more complete. For example, I struggled for a while with the small Phillips head screws used to attach the top panels to the center bar before realizing that while they looked like 0 or 1 screws they were really No. 2 screws. I wish the instructions had mentioned that. If you have to drive all the screws by hand you're in for a long afternoon (or morning or evening). Beg or borrow the necessary power tools. The cabinet is much easier (and quicker) to assemble. Overall, assembly isn't difficult, but it isn't something I'd care to do regularly.

After seeing and working with a Mac-Table, I bought one for my workspace at home. I don't think there's a higher recommendation. — SB

EUREKA: THE SOLVER \$ \$



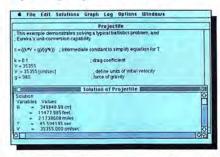
List Price: \$195.00.
Published by Borland
International, 4585
Scotts Valley Drive,
Scotts Valley, CA
95066. (408) 4388400. Version 1.0
reviewed. Not copy
protected.

When TK!Solver was removed from the Macintosh software market, the market was left with a gap. Spreadsheets, programming languages and statistics programs could grind through calculations when the user had already worked out a path to the solution. Stella and Stella for Business didn't require a solution path because they applied their own path: a simple forward march to update variables. For some problems, this worked splendidly. But for many, it was inade-



quate, so we were left without a massmarket product to digest and solve almost any equation set. Borland saw this product opportunity and responded by developing *Eureka: The Solver*, a freeform numerical equation solver.

Eureka is useful for anyone who doesn't just add up columns of numbers and prepare profit and loss statements. It does much more than just compute cell values from formulas. First you give Eureka the governing equations for the model, up to a maximum of 20 equations, and define any functions or unit conversions you'll need, up to ten of each. You can also enter initial guesses and constraints to speed things up and to prevent a search from starting in an undesired area. Then tell Eureka to search for a solution or display an error message explaining why it can't find one.



Standard trigonometric and logarithmic functions are available, as is treatment of imaginary and complex numbers. Time value of money, numerical integration and differentiation and normal probability distribution calculations are supported as well. Error functions, Bessel functions and other esoteric functions used in science and engineering are not supported, and no interface is provided to expand the functions available by linking compiled subroutines. Hopefully a future upgrade will include this capability because it will greatly increase the number of problems that can be solved. In the meantime, if you can find a series expansion to approximate the desired function, the SUM function might give a reasonable approximation. Compound functions (like x = 1 if y is positive and x = -1 if y is negative) are not supported at all.

If you ask it to, Eureka can search for maximum or minimum values of a variable. Many real-world problems — like maximizing profit with respect to widget selling price, or like finding the best number of lathes versus drill presses to buy under a fixed budget — don't have a direct algebraic solution. Either they require examining many possibilities and choosing the best or they require know-

...But Isn't It
Time to
Come Down
To Earth,
and Create
Some
ORDER
Out of the
Chaos?



MacMoney "

We Make Money Make \$ense

Survivor Software Ltd. 5



11222 La Cienega Blvd., Suite 450, Inglewood, CA 90304, Phone: (213) 410-9527. \$119.95 plus \$3.00 shipping and handling. California residents must add 6.5% sales tax. Hardware: Macintosh 512K, Plus, XL, SE or II. Printer (recommended): ImageWriter, ImageWriter II, LaserWriter, Plus (or equivalents). 800K Disk drive recommended. MacMoney is a trademark of Survivor Software Ltd. Macintosh is a trademark licensed to Apple Computer, Inc.

Please circle 147 on reader service card.



Storage for every

MacWorld called the DataFrame "the Porsche of disk drives." Now you can put that performance to work for more users than ever. Because now there's a DataFrame configuration that's right for every kind of user. For example...



1. The Deserving User: DataFrame XP 30 Hard Drive DataFrame XP 60 Hard Drive

Who deserves a Mac[™] with DataFrame's productivity-boosting performance? *Everyone*. That's why DataFrame is the best selling hard disk drive next to Apple.® Compare, and you'll find that DataFrames are the *fastest*

drives for the Macintosh. That they give you 50% more storage for your storage dollar. And that they offer the most reliable, elegant system design to boot.

2. The Practical Utilitarian: Every DataFrame includes utility software worth over \$500.

Worth over \$500? Yes! Because all these packages purchased separately total over \$500. SuperSpool and SuperLaserSpool mean long print jobs don't tie up your Mac. DiskFit makes backup a snap. Sentinel makes encryption easy for sensitive files.



3. The Networker: DataFrame XP-60 + 40 Tape

Networks need fast storage, so users don't have to wait. And they need easy backup, for disaster prevention.

Solution: The DataFrame XP 60 + 40, with 60 Mb of fast storage, and our ultra convenient, industry standard DC-2000 40 Mb tape drive.

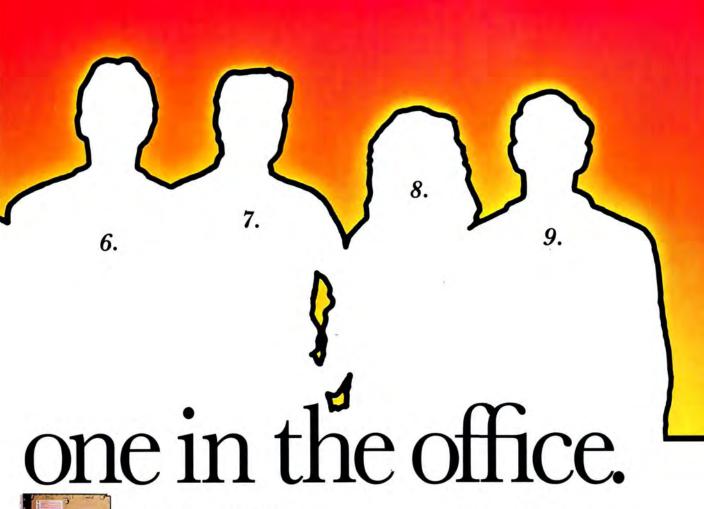
For bigger storage needs, consider our 105 Mb or 150 Mb drives (the XP-150 is the fastest Mac drive extant). Then backup with the DataStream 40 Mb tape drive.



4. The Desktop Publisher: DataFrame XP 60 + Bernoulli

Users with big data applications like desktop publishing or databases *low* this combination hard disk and removable Bernoulli® cartridge. 20 Mb removable Bernoulli cartridges make backup and archival storage fast and easy. And what a system: 60 + 20 means 80 Mb on line, with infinite storage on the shelf.

Registered Trademarks: Apple: Apple Computer, Inc. Bernoulli: Iomega Corporation. Trademarks: Macintosh, Plus, SE, II: Apple Computer, Inc. SuperMac: SuperMac Technology, a division of Scientific Micro Systems.



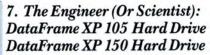


5. The Intensive Mac II User: DataFrame XP 150i Internal Drive.

For people who want all the performance a Mac II™ can deliver: Here is the biggest capacity drive that fits into the Mac II, and the fastest drive, bar none!

6. The Multiple Office Personality: DataFrame XP 60 + Bernoulli

Need to get files back and forth to different offices? Equip each office with a high performance DataFrame 60 + Bernoulli. Then use the convenient 20 Mb cartridges to ship information back and forth. Users at each office have high performance drives with fast cartridges for backup and archiving.



Those needing big storage and fast response will appreciate these two DataFrame

systems—the biggest storage that you can attach to any Plus,™ SE™, or II. And, unlike the ungainly boxes that house most large drives, DataFrames offer amazingly small, convenient packages.



8. The Protector: DataStream 40 Tape Drive

Our handy 40 Mb DC-2000 tape system plugs into the Mac SCSI port, and lets the office protector backup data with ease.

The One Who Makes It All Work: SuperMac's™ No Compromise Support.

Relief for the office problem solver: Our designed-in reliability and quality. Superb documentation. And our responsive hotline that delivers answers fast.

Call for the name of your nearest SuperMac dealer.

You'll want to see the entire line of SuperMac expansion products for the Mac. Storage. Big screens. Graphics software. Utility software. Accelerators. Memory expansion. Upgrades. And more on the way. From the leader in Macintosh performance peripherals.

(415) 964-8884 Dept 24



SuperMac Technology, 295 N. Bernardo, Mountain View, CA 94043

NEW! STEPPING OUT II

The Macintosh™ Screen Extender



Don't let the Macintosh Screen Confine You!

It is possible to see and work on a full page, without buying a large screen monitor!

Choose your screen size. Zip across entire pages in a single mousestroke. View the full page reduced with a simple key command. You can even zoom in and work on details.

Stepping Out II has even more features! Including:

- · Compatibility with the Mac II
- · Fixed menu bar and pallets
- 75% reductions for word processing

Stepping Out II is the ideal utility for desktop publishing, word processing, design, spreadsheets...any application that is enhanced by a full page display.

Best of all, Stepping Out II is only \$95.

To find out more, visit your local computer dealer or call:



berkeley system design, inc 1708 Shattuck Avenue, Berkeley, CA 94709 415-540-5536

Please circle 23 on reader service card.

QUICK CLICKS

ing how fast values change with respect to other values. With an equation solver, they become easy. Rather than setting up a spreadsheet and comparing many repetitive "what if" analyses (where you'll never be sure you couldn't do just a little bit better), use *Eureka* and find the best conditions directly.

While numbers are the goal of math models, often they aren't useful by themselves. So Eureka lets you go further. You can generate a graph of any two variables against one another and zoom in and out to change the graph scale. Or you can produce lists of any variable versus another to print out or to import into a spreadsheet for further analysis. Verifying that the solution really satisfies the model is easy, as is search for multiple solutions. To protect your work as you change a model, you can produce a log of any work you do so you can refer to it later, or store a Mac Write-compatible report of the equations used and the solutions and graphs created. Borland also outlines a method you can use to create equation files from Turbo Pascal (or from a spreadsheet), but it will rarely save time over typing the problem into Eureka from the start.

If you have a 68881 coprocessor (standard on a Mac II, and available on other Macs through third-party accelerator boards), you'll gain increased performance (in some cases up to 50 times faster) by using a special version of Eureka included on the standard product disk. Problems involving complicated models, misbehaved functions and high required degrees of accuracy will benefit the most. Even without a coprocessor and operating on a 512K Mac, however, Eureka isn't a slouch. Its algorithms are built to run efficiently. Choosing intelligent first guesses and setting reasonable accuracy limits are the easiest ways to get speedy answers.

Learning to use Eureka takes a little time. Typing in equations and getting answers is easy enough, though the error messages can be obscure. On-screen help is available, but it's too brief to be useful. The manual provides a good introduction to the product. It includes 21 examples from chemistry, finance, physics and game theory that point out important features. The program disk includes all the examples from the manual and 11 additional worked problems. If you become an advanced user and start pushing the limits, you'll probably find the manual lacking. Understandably, the manual is meant to discuss the Eureka interface and not to provide a course in linear programming or problem solving, so con-



sider getting a good textbook in the area of your model to read along with the manual. The three-mouse rating is mostly the result of two things: First, the list price is too high for a program like this. Many programs graph better, and most people who buy it won't use more than 10 percent of its power. Second, it needs an interface (like HyperCard and 4th Dimension) that allows linked external subroutines. And it doesn't support enough kinds of functions; and can't be programmed to support more right now. — Linda Custer

QUARTERSTAFF * * * *



List Price: \$49.95.
Published by
Simulated
Environment
Systems, 800 South
Pacific Coast
Highway, Suite 8-311,
Redondo Beach, CA
90277. (213) 3796742. Requires Mac
Plus. Version 1.2c
reviewed. Not copy
protected.

Computer adventure games have been around almost as long as computers. But long-time fantasy role-playing (FRP) gamers often complain that electronic simulations lack the feel of a pen, paper and dice game. The characters don't seem as real and there's no continuity from game to game. Simulated Environment Systems does something about that with Quarterstaff.



A lot of the attraction of FRPs is developing characters. Some people play the same alter ego for years. Not only does *Quarterstaff* have well-developed characters, there is potential to carry those same characters along with their possessions to another SES adventure. *Quarterstaff* is the first installment and is a good beginning.

The story line is an inventive variation on the "good versus evil" themes that dominate this genre. It seems the local

The next computer revolution.

f you can hold a pen, you can use computer. Forget about punchng keyboards or chasing a mouse. With the Personal Writer system, all you do is write on paper and our words appear typewritten on screen, instantly!

Whether you want to write text, nput figures, or create graphics, you simply pick up your pen and write your computer. Add, delete

and correct with the flick of your pen. It rects your spelling in a flash.

Personal Writer is the system that's as natural as your signature. And as easy to use. Its powerful character recognition software learns to read your handwriting and

makes interaction with your computer a breeze.

Whether your needs are in word processing, spreadsheets, data base management, or graphics, the Personal Writer system works for you. Fully compatible with virtually any software on the Mac market, Personal Writer's ease of use will follow you in all your applications. So don't worry

about tedious typing. Use the power of your own handwriting.

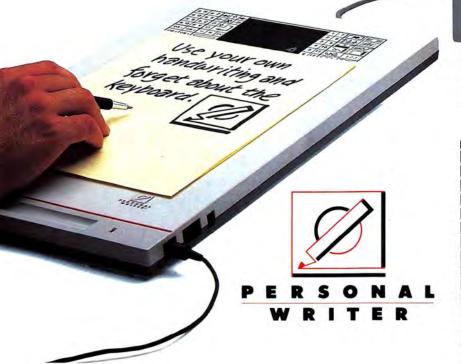
Call us toll free today for more information at (800) 322-4744 or write us at Personal Writer Inc., 1801 Avenue of the Stars, Suite 507, Los Angeles, CA 90067. (213) 556-1628. Dealer inquiries invited.

Please circle 61 on reader service card.

even comes with a built-in 100,000 word dictionary that cor-



Personal Writer is comprised of a tablet and softwa



Yes! I want to know more about the next computer revolution. Please send more information on Personal Writer today.

City. State. Zip.

Personal Writer Inc., 1801 Avenue of the Stars Suite 507, Los Angeles, CA 90067 Call us toll free at (800) 322-4744

Please circle 61 on reader service card.

IITII ITIFS

UTILITIES	
Affinity	
Tempo 1.2 (macro utility)\$ ALSoft	53.00
DiskExpress	38.00
DiskExpress	00.00
Stepping Out (full screen w/o scrolling) CE Software	55.00
DiskTop 3.0	31.00
QuicKeys (new macro programmer) Central Point	59.00
Copy II Mac (with MacTools)	20.00
FastBack	59.00
Ideatorm	
Disk Quick (hard disk organizer)	27.00
MacNosy (global disassembler)	69.00
MacSafe	94.00
NightWatch	05.00
Mainstay	00.00
N'cryptor	32.00
TypeNow	30.00
Microanalyet	
MacZap (disk utility)	36.00
Olduvai DA Switcher	
DA Switcher	25.00
PCPC HFS Backup 2.0	
Silicon Beach	28.00
Silicon Press (printer utilities)	41.00
Software Supply	41.00
Power Station	20 00
Suitcase	38.00
SuperMac	
DiskFit	44 00
Sentinel 1.0	85.00
Super Spool	49 00
Super Spool – Single User.	82 00
William & Macias	
MyDiskLabeler-B&W (design labels)	24.00
MyDiskLabeler-Color	31.00
MyDiskLabeler-LaserWriter	34.00
Working Software Findswell	



EMAC-20D (Everex) — Fast, portable 20MB hard disk with SCSI interface. Complete with cable, terminator and disk utility. (disk drives) \$525

DESK ACCESSORIES

Activision	
Focal Point	00
Allillity	
AffiniFile	00
Allan Bonadio Associates	
Expressionist (equation editor) 49.	00
Borland	
Sidekick 2.0	00
Cortiand	
Top Desk 2.3	00
Electronic Arts	
DiskTools Plus	00
QuickDEX	00
Imagine	
Smart Alarms and Appointment Diary 37.	00
Olduvai	
lcon-lt!	00
Solutions	
Smart Scrap & The Clipper	00

LANGUAGES

Borland
Turbo Pascal 59.00
Turbo Pascal Tutor
Consulair
68000 Development System
Icom Simulations
TMON (debugger)
Mainstay
V.I.P
Basic Compiler 1.0
Basic Interpreter 3.0
Fortran Compiler 2.2
Think Tech
Lightspeed C (super compiler) 95.00
Lightspeed Pascal 65.00
Zedcor
ZBasic
COMMUNICATIONS

CompuServe
CompuServe Subscription Kit 24.00
Data VIZ
MacLink Plus w/Cable
Dow Jones
Desktop Express (electronic mail) 96.00
FreeSoft
Red Ryder 10
Haves
Smartcom II (communications) 88.00
Palantir
In Talk 3.0 (communication/emulation) 99.00
Peripherals
Versa Term
Versa Term Pro
Software Ventures
Microphone 1.1 (includes Glue) 119.00
DATABASE SOFTWARE
DATABASE SULL WAKE

Acius	
4th Dimension	00.00
Ashton-Tate	
dBase Mac	299.00
Borland	
Reflex (data analysis)	59.00
Reflex Plus	65.00
Chang	
C.A.T. (contacts, activities, time)	229.00
Nantucket Corporation	
McMax (run dBase programs)	189.00
Nashoba Systems	
Filemaker Plus	149.00
Odesta	
Double Helix II	339.00
Multi User Helix Kit	222.00
ProVUE	
OverVUE 2.1 (power database)	149.00

BUSINESS SOFTWARE

Activision											
Business Class.										20	. 32.00
Borland											
Eureka!		-			2.0	-	. 7	i.		-	 131.00
Bravo											
MacCalc											. 79.00
Cricket											
Cricket Graph (a	dva	inc	ced	do	gra	p	hii	70	1).		119.00
Cricket Presents											
MACHINE AND ADDRESS OF THE PARTY OF THE PART			-	rio.		-		ė	-	-	



Parrot Pocket Modem (Novation) 300/1200 baud. Hayes compatible. Comes with software and cable. No battery required. (modems) \$99

ALL Macyality at Conse ORDERS NOW SHIPPED



Deneba Software
Comment 1.1 (post notes to files) 59.00
Microsoft
Excel 1.04
PowerPoint
Works 1.1 (integrated software) 179.00
New Directions
FastForms! Construction Kit 96.00
Satori
Bulk Mailer 3.0
Select Micro Systems
FlowMaster
Softview
MacInUse (tracks usage) 42.00
WORD PROCESSORS AND
OUTLINERS
Bootware Software

001211210
Bootware Software
Pro Resume Writer (multiple resumes) 75.00
Student Resume Writer (one name only) 30.00
Living Videotext
More (presentation power) 149.00
Microsoft
Word 3.01 (updated word processor) 239.00
Write 1.0 (new word processor)
Symmetry
Acta 2.0 (DA outliner)
T-Maker
Write Now (word processor) 99.00
WordPerfect Corp.
WordPerfect 189.00
SPELLING CHECKERS
of LLLING CITLCIALIS

Aegis
Doug Clapps Word Tools
Deneba Software
Coach 3.0 (spelling checker) 64.00
Coach Pro. (hypertext spelling checker) 129.00
Coach Merriam-Webster Thesaurus 36.00
Electronic Arts
Thunder (spelling checker)
Microlytics
Word Finder (synonym finder)
Target
Legal or Medical Dictionary 53.00
Working Software
Lookup (90,000 word dictionary) 29.00
Spellswell 2.0 (spelling checker) 42.00
GRAPHICS

Aba Software	
Draw It Again Sam	- 00
	5.00
Ann Arbor	
Full Paint (full screen graphics)	9.00
Broderbund	
Print Shop (cards and more)	7.00
CE Software	
CalendarMaker	7.00
Cricket	
Cricket Draw	9.00
Pictograph (color on the Mac II)	5.00
Deneba Software	0.00
Canvas	9 00
Canvas DA (desk accessory version) 6	4 00
Dubl-Click	
Wet Paint – Both Volumes	6.00
Foundation Publishing	
Comic Strip Factory	5.00
Great Wave	0.00
Crystal Paint 3	1 00
Crystal Paint	1.00
VideoWorks II	8 00
MicroMaps	3.00
MacAtlas Paint 1.0	5.00
MacAtlas Pro (MacDraw format) 129	0.00
	5.00
Mindscape GraphicWorks 1.1	1 00
Olduvai	4.00
Olduvai	

Required Reading.

The Final Word in Macintosh Catalogs is TREE!

We've been behaving like groundhogs for months preparing what we believe is the consummate Macintosh Products Catalog. Friends and family dropped by the wayside as we spent every waking hour testing, reviewing and photographing hundreds of great products for the Mac! The 56 page color catalog is as much an informative "handbook" as it is a source for your Macintosh needs. Any product can be found instantly by using our color-coded indexing system. And once you're there all the product information is at your fingertips. Questions on copy protection, compatibility (both hardware and software) and function are answered in lively text punctuated with full-color photographs and informative screen dumps.

The Premier Edition of MacWAREHOUSE CATALOG is YOURS FREE with any order from Mac Warehouse. Or, if you're not quite ready to place an order, just send in the coupon below with your check for \$2.00 (for postage and handling refundable with your first order) and we'll mail you the Premier Edition. So don't wait. We'll rush your product and Free Catalog FEDERAL EXPRESS STANDARD AIR so in no time at all you can "curl up with a good book".

AT MacWAREHOUSE THE SERVICE IS GREAT AND SO ARE THE PRICES!

When you call we'll be ready to help. Our sales representatives are here to answer any questions and will always let you know about our many specials. Like...

800k EXTERNAL DRIVE



From Cutting Edge comes our most popular external floppy drive. Reads and writes 400/ 800K disks and is compatible with all ROM's. Convenient front panel eject switch. **Only \$179**

QuicKeys

QuicKeys lets you convert every click, drag, keystroke, and menu selection into one or two user-defined keys. Define as many as two hundred quick keys to launch applications, pull down dialog boxes, and execute commands; or

MacWAREHOUSE CATALOG 1690 Oak Street P.O. Box 1579

Lakewood, NJ 08701

Please send me the Premier Edition of the MacWAREHOUSE Catalog. I am enclosing my check for \$2 to cover postage and handling. I understand that my \$2 will be applied to my first order.

NAME

ADDRESS

APT#

CITY

STATE ZIP





THUNDERSCAN



Thunderscan by Thunderware.
Converts your ImageWriter
into a precision scanner with
special effects such as rotation and linescreen captions.
You can enhance the images
with CricketDraw, Mac Draw
and Super Paint. Includes 4.0

software and additional adapter

for the Mac Plus and SE. Just \$172

TURBO MOUSE

Kensington's Mouse is quicker and quieter than the standard issue. Because you move only the ball (not the entire mouse) it responds much quicker and frees up your desktop for more important things. Includes extra port for another mouse or joystick. \$79

CHOOSE MacWAREHOUSE...For price, quality and service you won't find a better source for your Mac needs. If you don't see it here, give us a call. Most likely we'll have it in stock. Our sales representatives are here to help!

I'm Kerry, call me at:

MacWAREFOUSE

1-800-255-6227

(1-800-ALL MACS)
Inquiries: 201-367-0440
Canada: 800-255-6447
FAX # 201-905-9279
MONDAY THRU FRIDAY
8 A.M. TO 11 P.M.
(Eastern Time)
SATURDAY 8 A.M. TO
8 P.M. (Eastern Time)
NOW OPEN SUNDAYS!
8 A.M. to 8 P.M.
(Eastern Time)



Avalon Hill
MacPro Football
Broderbund
Ancient Art of War (battle strategy) 27.00
Lode Runner 24.00 Bullseye
Ferrari Grand Prix (racing)
Fokker Triplane Flight Simulator 32.00
Electronic Arts
Chessmaster 2000 (deluxe chess) 28.00
Ogre. 20.00 Patton vs. Rommel (strategy) 27.00
Patton vs. Rommel (strategy)
Pinball Construction Set
Scrabble (word game)
Skyfox (3-D dogfight)
Sub Battle Simulator
Greene
Crystal Quest
Infinity
Go
Infocom
Beyond Zork
Hilchnikers Guide (the classic) 18.00
Leather Godesses of Phobos
Stationfall
Flight Simulator 1.0
Micro Sports
MSFL Pro League Football
MSFL Pro Draft (create teams) 26.00
Miles
Harrier Strike Mission II
Mindecano
Balance of Power



Image Studio (Letraset) — Edit, enhance, and retouch scanned images using true 64 shade gray-scale. (desktop publishing) \$289

Deja Vu (who done it) Shadowgate Uninvited			30.00
Strategic Conquest Plus Practical Computer	ere.		46.00
MacCourses. MacGolf 2.0 MacRacketball			36.00
Primera Smash Hit Racketball II Sierra On-Line			27.00
Leisure Suit Larry			23.00
Dark Castle Beyond Dark Castle World Builder (game maker)			32.00
Simon & Schuster Star Trek - Kobayashi Alternativ Sir Tech	е	8533	24.00
Wizardry (classic fantasy)			35.00
Gato (submarine adventure). Orbiter (space shuttle). Tellstar II (req 512k). Timeline			26.00 26.00
Battle Stations DISK DRIVES/M			
DAUL DINI V LOILI			

Battle Stations	0.00
DISK DRIVES/MEMORY UPGRADES	
Central Point	
800K Laser Drive	5.00

CMS
MacStack 20 Meg 615.00
MacStack 40 Meg
MacStack 60 Meg
MacStack 80 Meg
Cutting Edge
800K Disk Drive
Dove
MacSnap SCSI Interface Port 85.00
MacSnap 524 (512k to 1 meg) 165.00
MacSnap 524S (incl SCSI interface) 229.00
MacSnap 548 (512k to 2 meg)
MacSnap 548S (incl SCSI interface) 439.00 MacSnap Plus 2 (MacPlus to 2 meg) 270.00
MacSnap 2S cmos
MacSnap 4S cmos
MacSnap 8S cmos (Mac II to 8 meg) 1,879.00
MacSnap Tool Kit (installation tools) 14.00
Everex
EMAC 20D (hard drive)
EMAC 20D Deluxe (0 footprint) 595.00
EMAC 40D (hard drive) 945.00
EMAC 40D (hard drive)
EMAC 601 (tape backup) 895.00
IOMEGA
Bernoulli Box (dual 10 meg)
Bernoulli Box (dual 20 meg)
Bernoulli Cartridge 3 Pak-10 meg 175.00 Bernoulli Cartridge 3 Pak-20 meg 240.00
MacMemory
MaxPlus and MaxChill
Turbo SE
PCPC
MacBottom HD21 (SCSI) 749.00
MacBottom HD21 (SCSI) w/Modem 915.00
MacBottom HD32 (SCSI) 899.00 MacBottom HD32 (SCSI) w/Modem 1,045.00
MacBottom HD32 (SCSI) w/Modem 1,045.00
MacBottom HD45 (SCSI)
MacBottom HD45 (SCSI) w/Modem 1,295.00
MacBottom IHD144 (for Mac II) 2,189.00 Rodime Systems
20 Plus External Drive
20 Plus Internal Drive
45 Plus External Drive
45 Plus Internal Drive
MODEMS

MODEMS

Everex	
EMAC 2400	245.00
Hayes	
Smartmodem 1200	299.00
Smartmodem 2400.	449.00
Migent	
Pocket Modem (ext. 300/1200 baud)	169.00
Novation	
Parrot 1200 (with Mac software)	99.00
Prometheus	
Promodem 1200	239.00
US Robotics	
Courier 1200 Modem	199.00
Courier 2400 Modem	349.00

BLANK MEDIA

DS/DD SS/DD	box of	10). 10).						,,	 				9		 20.00 14.00
Sony DS/DD SS/DD (box of	10). 10).	* 7	 4 6	0 .	 	0 0	9	 * *	 .6 6	+	 		+ +	 17.00 13.00

INPUT/OUTPUT	
AST	
AST TurboScan)
Cambridge Auto Numeric Ease	0
Mac 101 Keyboard	0
Kensington Turbo Mouse	0
Koala MacVision (digitizer)	0
3 Button QuickStick	9
Felix	
A ⁺ Mouse (512)	0
MacScan	
Nutmeg Systems 1,395.0 Nutmeg 15" Monitor-Plus, SE 1,395.0 Nutmeg 15" Monitor-Mac II 1,445.0 Nutmeg 19" Monitor-Plus, SE 1,549.0 Nutmeg 19" Monitor-Mac II 1,599.0	0

Qume
ScripTEN Laser Printer-3 meg 4,295.00
Seikosha America
Seikosha Printer (dot-matrix)
Sigma Designs
LaserView 15" Monitor-SE
LaserView 15" Monitor-Mac II 1,390.00
LaserView 19" Monitor-SE
LaserView 19" Monitor-Mac II
Summagraphics
MacTablet 6 × 9
MacTablet 6 × 9
Tangent
PC MacKey (professional keyboard) 115.00
ThunderWare
ThunderScan 4.0 (incl. Powerport) 172.00 ThunderScan 4.0 Mac II Accessory Kit 42.00



MacBottom HD21 (PCPC) — Sturdy, quiet, and reliable — also available with built in 1200 baud modem. (disk drives) \$749

ACCESSORIES

	ACCESSORIES	
Bec	k Tech	
Fan	ny Mac	69.00
Cur	tis	
Rub	y (6 outlets; filtered; 6 ft cord)	55.00
	otron	
Mag	Tilt (stand for Mac & drive)	68.00
Mad	Tilt SE	68 00
Moi	use Cleaner 360	15.00
Tilt/	Swivel for Megascreen	85.00
I/O	Designs	00.00
Ima	geware II Carrying Case	44.00
1///	I Ribbons-Black or Color	5.00
For	Color Pibbon	12.00
Hou	r Color Ribbon	2.00
Hos	at Transfer Four Color Ribbon	16.00
Med	riv Cilm Dibbon Diode or Color	0.00
Mai	rix Film Ribbon-Black or Color	
Mad	cinware Plus Carrying Case	59.00
Mad	cinware SE Carrying Case	69.00
Inn	ovative Tech	
Anti	-Glare Screen	16.00
Eas	el Plus ket Pak (holds 6 disks)	14.00
Poc	ket Pak (holds 6 disks)	9.00
	ed Pad	12.00
	mar	
Roll	top Cabinet 45 Teak (45 disks)	14.00
Roll	top Cabinet 90 Teak (90 disks)	21.00
Roll	top Cabinet 135 Teak (135 disks)	27.00
Ker	nsington	
ADE	B Keyboard Cable-Extra Long	28.00
Anti	-Glare Filter	32.00
Apr	-Glare Filter	1.00
Disk	Drive Cleaning Kit	20.00
Mad	gewriter II Cover	35.00
Mad	II Stand	21.00
Mad	cintosh Plus Dust Cover	9.00
	cintosh SE Dust Cover	
	use Pocket ADB	
Moi	useway (mouse pad)	8.00
Prin	ter Muffler 80	37.00
	ter Stand	
Sur	ge Suppressor	34 00
Sys	tem Saver Mac (fan and more)	64.00
Tilt/	Swivel	22.00
Mac	Cable	
	dem Cables (various)	Call
Prin	ter Cables (various)	Call
	SI Cables (various).	
Mar	Warehouse	
Mou	ico Pad	7.00
Mac	use Pad	7.00
	ise Mover	
	nge Micro	14.00
Gra	ppler Interface	85 00
uid	ppier interiace	33.00

Silicon Beach Super Paint (super graphics) Super 3D	79.00 195.00
Solutions Curator (graphics management)	85.00
SuperMac Pixel Paint.	265.00
Symmetry Picture Base 1.2	59.00
T-Maker ClickArt Business Image	28.00
ClickArt Christian Images	31.00 28.00
Zedcor	28.00
DeskPaint	39.00

DESKTOP PUBLISHING PRODUCTS

Adobe

Illustrator								i		ě.							399	00
Aldus																		
PageMaker 2.0						٠.			ì				è				399.	00
Boston Publish MacPublisher III	ing																	
MacPublisher III		,								v							205.	00
Letraset																		
Image Studio										Ġ						į.	289.	00
Ready-Set-Go 4														×	,		285.	00
Olduvai																		
Read-It! (optical	cha	era	30	ct	er	1	e	CC	00	7/	ni	tie	01	7)		190.	00
Read-It! TS (Thui	nde	rs	Sc	à	an	V	e	rs	ic	ór	7)			ř			. 96.	00
Quark																		
Xpress															7		499.	00
Solutions																		
Super Glue (total	gra	ac	h	ic	cs	ir	nt	e	q	ra	ati	io	n)			. 56.	00
Target									_					•				
Scoop		+						į,							,	,	299.	00



Red Ryder 10 (FreeSoft) - Powerful, updated, and fully documented. Rated five mice by MacUser. (communications) \$49

NETWORKING PRODUCTS

Farallon
PhoneNET 128/512
PhoneNET Plus, SE & II
PhoneNET Appletalk Adapter 8.00
Infosphere
ComServe
LaserServe
MacServe
Nuvotech
EasyNET 128/51227.00
EasyNET Plus, SE & II
EasyNET AppleTalk Adapter 5.00
TOPS
TOPS



EMAC 60T (Everex) - 60 MB tape backup. Share with several computers. Mirror image and file-by-file backup. (disk drives) \$895

FONTS

Adobe	
Fonts (various voiumes)	all
Altsvs	
Fontastic Plus	00
Fontographer 2.2 (laserwriter fonts) 242.0	00
Casady	
Fluent Fonts (double disk set) 27.0	00
Dubl-Click	
World Class Fonts – Both Volumes 46.0	00
Postcraft	
Laser FX	00
Laser FX	
Challenger	
Mac3D 2.1 (3-D graphics)	00
Diehl Graphsoft	
MiniCad	00
Innovative Data	
MacDraft 1.2a (power drafting) 156.0	00
Micro CAD/CAM	
MGMStation (professional CAD) 685.0	00

FINANCIAL AND ACCOUNTING SOFTWARE

BPI	
Entry Series General Accounting 129.00)
Digital ETC	
Turbo Maccountant 2.0)
Migent	
In-House Accountant)
Monogram	
Business Sense)
Dollars & Sense (personal finance) 81.00)
Peachtree	
Back to Basics 3 Pack (GL, AP, AR) 139.00)
Softsync	
Accountant, Inc)
Softview	
MacInTax 87	J
TaxView Planner	J
Survivor	
MacMoney (personal finance) 40.00	C
CTATICTICAL ANALYCIC	

STATISTICAL ANALYSIS	
BrainPower	
MathView Professional 149.0	0
StatView 512+ (requires 512k) 177.0	0
Cricket	
Statworks 1.2 (statistical package) 74.0	0
D2 Software	
MacSpin 1.1	0

MUSIC AND SOUND

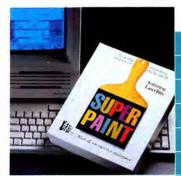
Bogas Productions
Studio Session
Broderbund
Jam Session
Cambridge Auto
MIDI Conductor 49.00
Electronic Arts
Deluxe Music Construction 2.0 61.00
Farallon Computing
MacRecorder (records sound) 150.00
Great Wave
ConcertWare + 4.0
ConcertWare + MIDI 4.0
Impulse
Impulse Audio Digitizer w/SoundWave 149 00
Tower of Power Stereo

EDUCATIONAL/PERSONAL

broderburid	
Geometry	. 62.00
Davidson	
Math Blaster	27.00
Speed Reader II	39.00
Word Attack!	28.00
Electronic Arts	. 20.00
Business Simulator(executive training)	48.00
First Byte	. 40.00
	22.00
First Shapes	. 32.00
Kid Talk, Math Talk ea	
Speller Bee	. 32.00
Great Wave	
Kids Time	. 26.00
Mindscape	
Perfect Score S.A.T. (w/Perfect College) .	. 47.00
Nolo Press	
WillWriter 2.0 (prepare your own will)	29 00
Palantir	
MacType	31.00
Rubicon	. 01.00
	20.00
Dinner At Eight (recipes)	38.00

GAMES

Year and the second	_	_	_	_	_	-	7.					
Accolade Hardball												23.00
Activision Shanghai (strategy)				7.	. ,							24.00
Artworx Bridge 5.0						1	-					22.00



SuperPaint (Silicon Beach) — Painting, drawing, 300 dot-per-inch editing, new graphic tools, and more. (graphics) \$79

VISA and MASTERCARD accepted. No surcharge.

Your credit card will not be charged until your order is shipped. If we must ship a partial order, we pay the freight on the remaining portion. All U.S. shipments are insured at no extra charge. C.O.D. orders accepted (add \$3.00 surcharge) — \$1,000 maximum. Cash or

certified check

Corporate purchase orders accepted subject to credit approval.

All products are covered by a 120 day limited warranty.*

CT residents add 7.5% sales tax. NJ residents add 6.0% sales tax. SHIPPING

All orders add \$3.00 per order (includes Federal Express Standard Air service).

We ship all orders (except C.O.D.) via Federal Express Standard Air unless instructed otherwise at time of order. C.O.D. orders ship via UPS (Blue Label if you are more than 2 days from us via UPS ground).
 Alaska, Hawaii, Foreign, APO/FPO please inquire at time of order.

*Defective software replaced immediately. Hardware replaced or repaired at our discretion.

I'm Kerry, call me at:

(1-800-ALL-MACS) Inquiries: 201-367-0440 Canada: 800-Canada: 800-255-6447 FAX # 201-905-9279

acvaratouse

1690 Oak Street, P.O. Box 1579, Lakewood, NJ 08701

MONDAY THRU FRIDAY 8 A.M. to 11 P.M. (Eastern Time) SATURDAY 8 A.M. to 8 P.M. (Eastern Time) NOW OPEN SUNDAYS! 8 A.M. to 8 P.M. (Eastern Time)

MUC8



© Copyright 1987 Micro Warehouse, Inc. MacWAREHOUSE" is a division of Micro Warehouse, Inc. MacWAREHOUSE" and Micro Warehouse are trademarks of Micro Warehouse, Inc. Item availability and price subject to change without notice.

QUICK CLICKS

Druids, well-known for their good works and love of nature, have disappeared. You, as the mind behind three daring adventurers, are out to solve the mystery. By delving deep into the Druids cavern, you'll discover"majic" items and creatures, each of which may help or harm you. You'll also soon discover something very unDruid-like: a dungeon complete with a temple dedicated to a rather nastylooking demon. A series of poems that you discover along the way helps you unravel the mystery and find a way out of the dilemma.

The actual play is a mix of text and graphics in the form of a round-by-round conflict that should be familiar to veteran FRP gamers. The reality of this fantasy is high. You'll have to endure seemingly endless rounds of seeking clues, weapons and extra food and torches just to keep you going. At some point, of course,

you'll also have to sleep.

The way to victory is not without hazard, but this sense of danger is part of what we pay for. Actually, it's not as easy to die in Quarterstaff as it is in other computer adventure games. You are often at risk, but if the danger is too great you can usually run away. Also the puzzles you have to solve are not as closeended as other computer games. There are usually several solutions to a problem. You can bully your way through the dungeon by hacking and slashing or take a smarter and less time-consuming approach by looking for clues.

Quarterstaff's flexible input lets you respond however you like - with either the mouse or the keyboard. Most of the verbs (such as North, South, Look, and so on) that are accessed through the menu also have a Command key equivalent. Quarterstaff lets you define macros for commands you think you'll be using frequently. For instance, instead of typing in "Attack Gelatinous Cube with Mace of Destruction" for each melee round, you just define those words as COMMAND-1. It makes combat move much faster. Up to ten keys can be cus-

The on-screen map (a nice feature in itself) is "hot" - you can move around by pointing and clicking to where you want to go. There are also commands to TILE or LAYER windows to help organize the clutter. If you have MacInTalk, Quarterstaff makes use of it, and will also provide sounds, such as doors creaking or wind blowing, which are, as often as not, warnings of impending doom.

tomized as macros.

Simulated Environment Systems has created a good shell with Quarterstaff to which modules can be added. Current plans call for a town module that will serve as a hub around which other adventures will take place. This means you can develop the characters you've used in Quarterstaff, keeping all of their inventory and experience and send them off to do battle in other milieus.

Quarterstaff closely approximates what it's like to play a non-computer fantasy role-playing game, but it won't appeal to everyone. Like most adventure games, Quarterstaff takes a long time to play to completion and play can often be monotonous. Simulated Environment Systems estimates a 40- to 50-hour game for experienced players, and not a small amount of that is spent waiting for the disk drive to stop whirring.

For FRP freaks Quarterstaff is a musthave - a real winner. I'm anxious to see how this "world" evolves. But if you haven't played this type of game before you might want to try something a little lighter first before committing the time it takes to get through Quarterstaff.

DISK TOOLS PLUS tttt



List price: \$49.95. Published by Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404. (415) 571-7171; (800) 245-4525; in CA, (800) 562-1112. Requires 512K + . Not copy protected. Version 1.0 reviewed.

Disk Tools Plus is a set of 8 extremely useful desk accessories and applications. They may look vaguely familiar to people who have had their Macs for a while - as well they should. This set of DAs was originally published by Batteries Included as the Battery Pak. It won high honors then from this magazine as well as oth-

Batteries Included has since passed on, but these DAs have been picked up by Electronic Arts. More than picked up, in fact. They have all been reworked and improved. You can't get much more value for your dollar than Disk Tools Plus provides.

The shining star is Disk Tools II, a DA that offers you virtually all of the functionality of the Finder and then some. The program competes in a crowded market with both other DAs, such as DiskTop, and Finder alternatives like PowerStation and Oasis. It more than holds its own.

The interface is fairly cluttered, but totally intuitive. This is how icons are supposed to be used. One feature that is not immediately obvious is that almost all operations work on multiple files. That is, you can select, say, five files and a folder from the list, and then click on the Size icon to get the combined size. You can



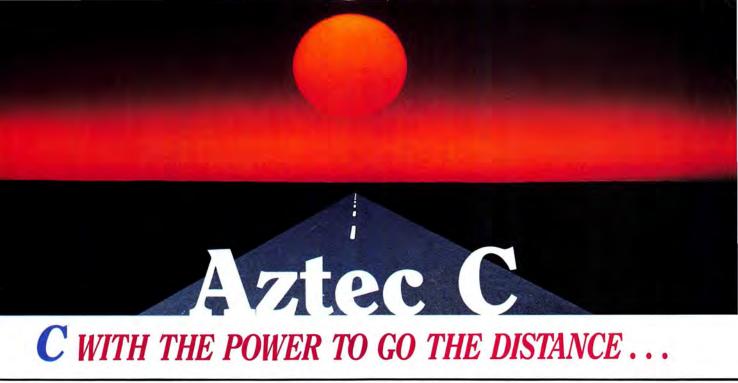
then click on the Move icon and move all the files (and the folder) together. That's enormously useful.

The Find function is the best in the business. You can rapidly and easily search on numerous criteria. This alone is worth the price. You can launch or Quick Launch (from a special window) both documents and applications. Other icons let you set the file attribute bits (obviating the need for a separate file editor), and copy and delete files. About all that's missing is the ability to print selected documents.

This is a versatile DA especially for hard disk users. Floppy users will have problems with the size. It takes up 92K, more than earlier Finders!

Also included are an excellent calendar (with the ability to store notes tied to particular days); an ImageWriter spooling DA that is merely fair (don't buy this package for the spooler); an RPN (if you need to ask what RPN stands for, ignore this one) calculator; a more-than-decent scientific calculator; and a windows DA that puts up a menu that lists yours windows and allows you to freely select which one should be active. There's also a replacement for the Note Pad. It's called Phone Pad, since you can have it dial the modem (or phone for you). It can have up to 250 pages and, fortunately, given how much you can put in it, excellent searching ability. To complete the package, the Calendar Manager application (the only part of the package that's not a DA) lets you print out several kinds of reports from your Calendar

This product is worth buying just to get Disk Tools II; when you consider all the other goodies, it's one of the best bargains in the software market. SB



WHATEVER THAT DISTANCE MIGHT BE.

When you have a challenging program to develop, be sure that your C compiler has the power to see you through to the end. Quickly, and without the hidden limitations that less powerful compilers can surprise you with.

What you need is a professional compiler. Aztec C from Manx Software has professional power that allows you to fully explore the workings of your imagination . . . and bring your project home a winner.

No other C Compiler gives you so much freedom to create, no matter how large the task. And with Version 3.4, Aztec C is the only C Compiler to provide unlimited data size and unlimited program size. That means no segmentation. Unlimited static and global areas. Unlimited array size.

Imagine the programming possibilities.

STANDARD FEATURES:

- Optimized C with 68010/68020 & 68881
- Macro Assembler with 68000/680x0 & 68881
- Fast Overlay Linker
- Symbolic Debugger
- Support for Mac Plus, 512KE, SE, and II
- Macintosh Libraries
- UNIX Libraries
- Universal Systems 4.1 & Vol. 5 Compatibility

- Unlimited Data Size (no 32k limit)
- Unlimited Program Size (no segmentation)
- Inline Assembly
- Precompiled Headers for **Fast Compilations**
- 68881, IEEE, and SANE
- MDS Object Support
- TMON, MACSBUG, and MACNOSY Support
- Mouse Based Editor
- Lots of Examples

EXTENDED FEATURES:

- UNIX utilities make, diff. vi editor and grep
- MPW Compatibility
- Profiler for code optimization
- Assorted tools and utilities Available for the Macintosh, Apple II, Amiga,

MS-DOS/PC-DOS, CP/M-86, TRS-80, ROM, and others.

AZTEC C IS AVAILABLE IN THE FOLLOWING VERSIONS TO SUIT YOUR NEEDS:

Aztec C68K/Mac-p Professional System \$ 199 Includes all of the standard features

Aztec C68K/Mac-d Developer System \$ 299

Includes all of the standard and extended features

Aztec C68K/Mac-c Commercial System \$ 499 Includes all of the standard and extended features plus library source and 1 year of updates

An inexpensive but powerful C development system including C compiler, 68k assembler, linker, libraries, example programs, and utilities

Order Now At No Risk Or Call For Information

In NJ or outside the USA, call 201-542-2121 Telex: 4995812 Fax 201-542-8386

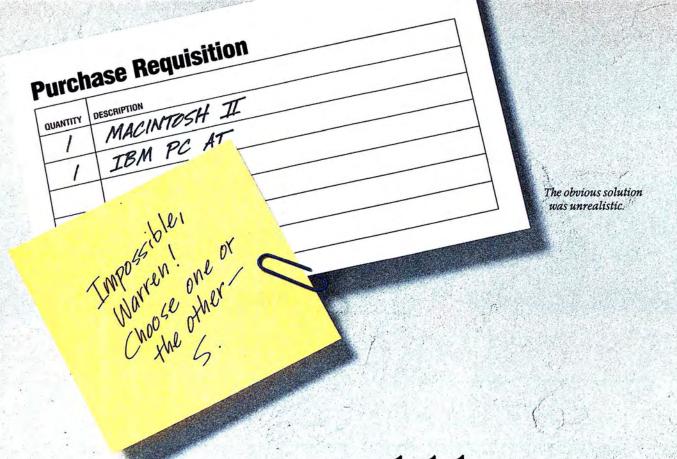
Aztec C is available on a thirty-day money back guarantee. Call now and find out why over 50,000 users give Aztec C one of the highest user-satisfaction ratings in the industry.



C.O.D., VISA, MasterCard, American Express, wire (domestic and interna-tional), and terms are available. One and two day delivery available for all domestic and most international destinations.

Manx Software Systems One Industrial Way Eatontown, NJ 07724

Please circle 194 on reader service card.



"I would have given up anything to use a Macintosh, excep my PC software" "You can't have your Macintosh™ and PC too." Famous last words.

People say, "Where there's a will, there's Warren." Which means I don't settle for words like No. Impossible. Can't be done. No way.

So when I decided I wanted a Macintosh, but didn't want to give up Lotus 1-2-3® or dBASE® III, I naturally set about looking for a way to have it all.

The fastest fix was to buy both an IBM® PC and a Macintosh. "Not possible," said the DP/MIS manager. "Pick one. Any one you want, as long as it's MS-DOS® compatible." Witty guy.

Then I searched everywhere for someone willing to loan me a PC in exchange for executive privileges. I was willing to give up anything, but I kept hearing No. Not interested.

Without another alternative in sight, I decided to surrender and settle for a PC. Then, I discovered an article on AST's newest products—

What I like best about AST's Mac86 and Mac286:

MS-DOS co-processors for the Macintosh II

and Macintosh SE. The cavalry had arrived. The article said AST's Mac86™ and

Mac286™ allow you to actually run

MS-DOS application programs on your Macintosh. Just plug the DOS

- desktop while running DOS
- · I can cut and paste text from both MS-DOS and Macintosh environments
- I retain the benefits of the Mac I have full access to DOS programs and data through 5.25" MS-DOS floppy drives
 - · My MS-DOS files share Macintosh hard disk volumes

processor into your Macintosh II-Mac86 into an SE—and load your favorite MS-DOS application software onto the Mac's hard disk. I was sold.

MS-DOS on my Mac looked and felt just like all my other Mac applications-great. I just pointed and clicked. The MS-DOS prompt I know and love appeared in a window on my screen. From there on, I used MS-DOS programs

and commands

as if I were working

Executive Washroom have traded on a PC. anything for the best I even of both IBM and Mac worlds.

moved Macintosh files into MS-DOS, sometimes cutting and pasting parts from one environment to the other. And when I was finished with my PC and Macintosh files. I stored them both on the same Macintosh hard disk without any clumsy file transfer procedures to slow me down.

Back in the Macintosh environment, I still had immediate access to all of my PC files. Using Macintosh software, I reopened a PC file,

enhanced it, then merged it with a Mac file. And when I was finished, I printed it on the LaserWriter®

I guess the moral of this story is: You CAN have your Macintosh and PC too. Call AST today to find where you

> can buy Mac86 or Mac286. (714) 553-0340. BBS: (714) 660-9175.

FAX: (714) 660-8063.



Please circle 190 on reader service card.

Iwould

Mac86 and Mac286 meant I didn't have to compromise the Macintosh I wanted for the IBM software I needed.







PowerTools

ow you have the tools to build a desktop design solution that's easy to learn, fast, and *powerful* thanks to three powers in the computer industry.

Start with a Macintosh® II computer

—the most powerful, most expandable member of the Macintosh family. It can handle your most complex design tasks with ease. And, with access to thousands of productivity programs, it still takes care of business.

Add VersaCAD®.

VersaCAD's "Macintosh Edition" the first high-performance CAD software written especially for the Macintosh—provides all the design power and flexibility you'll need. And it's so easy to learn, you can "point and click" your way through complex designs in no time at all.



Finish with Hewlett-Packard.

When high-quality input demands outstanding output, plug into an HP DraftMaster drafting plotter. The powerful DraftMaster delivers superior line quality on a variety of media—in just minutes.

Power Tools. The only hardware and software you'll need to build the most powerful, easy-to-learn desktop design system around.

For more building tips, just call (714) 960-7720 and ask for our "Power Tools" brochure.

Macintosh is a registered trademark of Apple Computer, Inc.

VersaCAD is a registered trademark of VersaCAD Corporation.

DraftMaster is a product of Hewlett-Packard Company.

TIP SHEET

Found a trick, shortcut or a smarter way to get something done with a program? Share your hints by sending them to The Tip Sheet, c/o MacUser, Suite 250, 110 Marsh Drive, Foster City, CA 94404. We pay at least \$25 for every hint we publish, plus we'll print your name and hometown.

Every month we'll select one tip as the Tip of the Month. The person who sends in that tip will receive \$100 for it.

FILEMAKER PLUS

Use caution when placing text into a field that's formatted for numeric values only. Here's an example of what can easily happen. If you're making out records for a library application and wish to make records for multiple copies of a single document, the following situation might arise. If you have a Master Copy as well as copies 1, 2, 3, 4, 5, 6 and 7 and enter these data into a numerical field on eight records and then sort by copy number in ascending order, the files are arranged as follows:

Master Copy 3 4

5 6

This rather strange result occurs because Filemaker Plus accepts both "Y" and "N" in numeric fields, evaluating them as 1 and 0, respectively. In our example, the sorting process sees the "y" in Master Copy and assigns a value of 1 to that field. And we get the results shown. You can safely use text in a numeric field only if you're careful to avoid all words that contain "y" or "n"!

MICHAEL J. MCLANE GALES FERRY, CT

Data exported from FileMaker Plus to a spreadsheet

(like Excel) is normally delimited by tabs separating data fields and carriage returns separating records. Excel can import such data into its row and column format very nicely. Unfortunately, though, the field names are not exported, and if there are a lot them, the required hand entry can be tedious.

Get around that problem by using the ability of File-Maker Plus to create a "merge" file. These files are primarily intended to be used with the mail merge functions of some word processors and applications. other The merge file is a text file with field values enclosed in quotes and separated by commas. The field names are exported as the first record. While Excel will not properly comma-delimited import fields, Trapeze will. Create a text block in Trapeze and import the merge file. If necessary, rearrange the worksheet, the text and numbers in the right types of blocks. If you still need to go to Excel, Trapeze can export tab-delimited and WKS files that can be read directly by Excel. Columns can be formatted as text or numbers, as desired. In both cases, though, the field names are preserved. You can also use most word processors to quickly search for and remove

the quotes and also replace the commas with tabs. IAMES MCALISTER CONWAY, AR

Sometimes you need to the print the records in your data base starting in the middle (the printer may have jammed or run out of paper). The most direct way to do this is to just run the report again, and put the number of the first incomplete page in the Print From box in the Print dialog. However, sometimes you don't know the page to start

Another way to the same result is to use the OMIT RE-CORDS command to remove all the records that you have already printed from the current set of found records. To do this, use the book tool and its slider to move to the first record you want to print. Note its number and then use the slider to move to the first record in the data base. Choose OMIT RECORDS from the Edit menu, and when the dialog appears, subtract one from the record number of the first record you want to print, and enter that number in the dialog. This will omit (not delete) all records up to the one you want to start printing from. Now just choose PRINT.

This method should not be used if you're restarting a report that uses Grand Totals,

as FileMaker Plus will exclude the omitted records from the totals. The technique is very useful for printing simple listings and labels. It's also a convenient way to print records in a sorted set starting from the middle (for example, you can print M to Z of a directo-

ANDY SHAW SAN FRANCISCO, CA

One of the great features of FileMaker Plus is its VIEW AS LIST option. This allows you to enter and edit records in a spreadsheet-like scrollable list. One drawback is that the left side of the window contains the toolbox and record book, effectively narrowing the already limited size of the

Get into the habit of automatically resizing the window to take full advantage of the screen. Grab the title bar and move the screen as far to the left as it will go. Then use the size box in the lower right corner to stretch the screen back to the right. If you need access to the toolbox or record (you won't for viewing and editing in the list), click in the zoom box in the upper right corner and the window will shrink back to its original size. Another click and it's back to full screen.

Doug AITA BOZEMAN, MT

SYSTEM



If you have an SE or a II, pressing the"-" key (usually called the tilde key, for the other symbol on it) will express you to the bottom of any file selection list box (such as that displayed when you chose Open). The Escape or esc key will take you immediately to the top.

BARRY J. SILVER BETHLEHEM, PA

MACMONEY



Although the manual doesn't tell you how to export re-

port files to Microsoft Works, it can be done. The best results are achieved if the Mac-Money report file is opened as an imported text file into the spreadsheet module Works. From there you can easily transfer the data in the word processor and data base modules.

Keep your business running true to form

FileMaker Plus. The data base and forms manager from Nashoba Systems.

The winner of top awards from both MacUser and Macworld is now the top-selling data base manager for the Macintosh." And for good reasons.

FileMaker® Plus is the first product for the Macintosh to combine professional data base management with the ability to produce professional quality forms

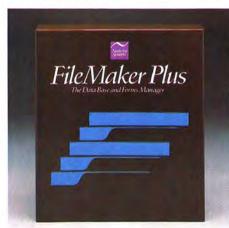
FileMaker Plus makes it easy to quickly create any type of form you want: number-heavy forms like invoices, purchase orders and expense reports; and text-heavy forms like contracts and form letters. You can arrange drawings photos, text, numbers, logos, and dates anywhere on the page for maximum impact, then preview what you've done on the screen to make sure it's exactly what you want. FileMaker Plus even includes templates for creating mailing labels, proposals, and Rolodex* cards.

FileMaker Plus makes managing your data base just as easy. It automatically indexes every word, number and date you enter. You can look up pricing information and quickly calculate, sort, and summarize your invoices, automate your sales reports, produce contact lists, form letters, and mailing labels. All from the same data, without retyping. You can also exchange information with other applications, like Microsoft* Word, Excel, MacWrite, MacPaint, and MacDraw to help you share information and formats.

And FileMaker Plus is on friendly terms with the entire Macintosh family, including the Macintosh 512K, Macintosh Plus, Macintosh SE as well as the Macintosh II, the ImageWriter* II and LaserWriter* Plus, and the latest system software, such as MultiFinder™ and

AppleShare."

Nashoba Systems is just as committed to FileMaker Plus today as we were when we first developed it. We'll continue to do all the things that have made it such a success: listen to our customers, provide outstanding free technical support, upgrade our product with the most advanced technology in an easily accessible form, and assure your satisfaction



with our money-back guarantee.* FileMaker Plus from Nashoba

business running in top form.

vou. 1-800-274-0610.

Systems. For only \$295, it keeps your

Call us today for the dealer nearest

© 1987 Nashoba Systems, Inc. FileMaker is a registered trademark of Nashoba Systems, Inc. ImageWriter, LaserWriter and MacWrite are registered trademarks of Apple Computer, Inc. AppleShare, MacDraw, Macintosh, MacPaint and MultiFinder are trademarks of Apple Computer, Inc. Microsoft is a registered trademark of Microsoft Corporation. Rolodex is a registered trademark of finsileo. *Money-back guarantee is available for thirty days from date of purchase. Details available upon request.

Please circle 213 on reader service card.

Importing the file directly into the word processor doesn't work well because you must preset all margins. CHARLES CALDWELL CORTEZ, CO

The first four reports on the Reports menu are standard reports for the current month. If you want to see one of them for a previous month, go to the Control Panel desk accessory and reset the month

to the month whose reports you want to see. Then select the reports. Remember to change the date back when you're done. CHARLES CALDWELL

OVERVUE

CORTEZ, CO

Suppose you have a column of book titles and the column has been given the Word Caps attribute. This can be a nuisance as even small words like a, an, the and of are capitalized. The best way to avoid having to do too many corrections is to type the titles without spaces before the short words. For example, The Book of the Sea should be typed as The Bookofthe Sea. It's then a simple matter to go back and add the spaces at the appropriate places. BRUCE B. I. HOOVER

CHARLESTON, SC

WORD 3.0X

This tip is particularly useful if you're using the desktop publishing features of Word. The program works out a "normal" spacing between letters based on the type of font and its size. But normal spacing is not optimal in all situations. For example, some overhead transparencies are created and printed on the LaserWriter using 14-point Times, all in capital letters (all capitals almost always causes spacing problems between letters). When printed out the first time, with lots of white space on the page, the individual letters are too close together to look good.

To fix that situation, select the offending text, choose CHARACTER on the Format menu, and then select Ex-PANDED when presented with a list of choices for character spacing. The program suggests an expansion amount in the By box. You can override this by typing in any value from .25 point to a maximum of 14 points (a bit more than 1/6 inch; 72 points = 1inch). In the example here, Word suggested 3 points, but 1.5 points looked much better.

MARIA DEMARCO GLOUCESTER, ONTARIO

Word's BORDER command lets you use a box or lines to highlight a paragraph. However, borders can only be applied to a single paragraph. Here's how to put a border around a group of paragraphs:

1. Type all the text that is to be included inside the borders.

2. Format the text as you want it to appear. To add white space above, below and between the paragraphs, use blank lines. To add white space to the left and right, increase the margins.

3. Select all the text - including any blank lines at the top and bottom - and type COMMAND-OPTION-D to CODY the selection to the Clipboard as a graphic.

4. Paste the graphic into your document, select it and give it the border you want.

There is a limit to how much text Word will convert to a graphic — the limit seems to be about 30 lines of 12-point text. And since you can't edit inside the graphic, save your original text until you're sure you no longer want to make changes. RICHARD P. SCHWARZ

MINNEAPOLIS, MN

When creating a form, don't use a series of typed underline characters to create a fillin line. While some fonts will show a solid line on the screen, the printed results will often be uneven, or worse, have gaps. The trick is to set Underline as a style and then type blanks. If you press the Command key while typing the blanks, you create "hard" spaces, which the program will keep on the same line. TOM ROCKLIN IOWA CITY, IA

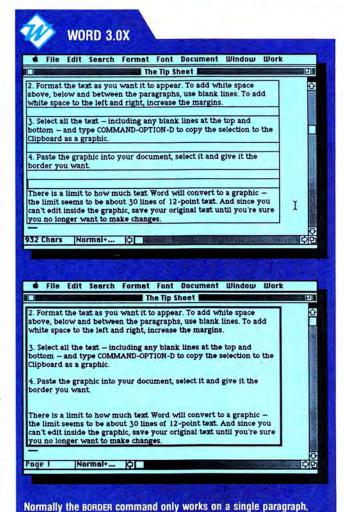
SYSTEM

If for some reason you want two files to appear to have the same name, use an ellipsis (Option-semicolon will give you an ellipsis) in one and three periods in a row in the other. If you look very closely you'll see that the three periods are a tiny bit wider on screen than the ellipsis, but at a glance they look the same. ANTHONY R. CURTIS WALKERSVILLE, MD

MULTIFINDER

If you don't want to scroll to the bottom of the Apple menu to see what applications have been launched, hold down the Option key while selecting the menu. The DAs are not listed and you have easy access to the applications list.

Another, neater solution is



leading to unsightly results. Get the results you want by by formatting

your text as you want it and then copy everything to the Clipboard as

a graphic (COMMAND-OPTION-D). Finally, paste it back and put the

border on.

How to account for everybody.

The SB	T Database Accounting Library	/	
dLedger dInvoice dStatements dPayables dOrders dPurchase dPayroll dAssets dProject dMaterials dProfessional dProperty dMaintenance	General Ledger Billing / Inventory Control Accounts Receivable Accounts Payable Sales Order Processing Purchase Order Processing Payroll/Labor Accounting Fixed Assets Management Job Cost Accounting Manufacturing Planning Time & Billing Property Management Service/Equipment Maintenance	\$395 \$295 \$100 \$395 \$295 \$295 \$395 \$395 \$395 \$395 \$395 \$395 \$395 \$3	### Files Cells Set Commodeds Set Section Regions U-6.15

And we do mean everybody.

You see, the SBT Database Accounting Library is already accounting for more than 50,000 businesses of every conceivable description.

From law firms and construction companies, to retail stores and manufacturers. From small businesses with one computer, to major corporations with hundreds.

And now it's available for the Macintosh!



"It is the most complete and professional package available on the Mac."

Scott Beamer, MacUser Magazine Our software runs with industry standard database management programs, like McMax, the dBASE III PLUS workalike for the Macintosh from Nantucket.

The SBT Database Accounting Library is a modular system of accounting programs. You simply pick the ones that match your needs and start accounting. And when your needs change, you can use our free McMax source code to make our software accountable to your way of doing business.

The SBT Database Accounting Library for the Macintosh.

Everybody who accounts for anyone should look into it.

Call us today for our demo disk and information package, and get yourself accounted for.

One Harbor Drive Sausalito, CA 94965 (415) 331-9900 Telex 9102404708



to obtain MF Menu 1.1 (or later). This little public domain INIT should be put into your System folder and the Mac restarted. After it's installed all you have to do is click on the icon at the right side of the menu bar to get a menu of open applications. FRANK BENJAMIN

Some desk accesso-

ENCINITAS, CA

ries, such as version 1.1 of the Thunder spelling checker, don't work with MultiFinder. Here's how to handle this situation: Once you're in the application you want to use the DA with, hold down the Option key when selecting the DA from the Apple menu. You can now use the DA with that application (and only that application). It has been "attached" to the application. Another DA that this trick works for is the macro DA 101 Keys that comes with DataDesk's Mac 101 keyboard. FRANK BENJAMIN

EXCEL

ENCINITAS, CA

While Excel has a square root function (SQRT), you're on your own as regards other roots. It will do logarithms, however. And to get the cube root of a number, take the log of it, divide by 3, and then raise 10 to that power. 10 to the x power is the antilog. You can set this up as shown or use the following formula to do it in one step:

 $=10^{(LOG10(x)/y)}$

where x is the cell reference of the value you want to extract the root from and v is the root you want. Also shown is the formula in macro form. ROBERT ROTH KINSTON, NY

There is a more efficient method to creating scatter plots and charts in Excel than the one commonly used and described in the September "Help Folder." Just do the following:

- 1. Enter the paired data in columns, starting in row 2 (or lower).
- 2. Enter a heading in the row above the y-axis data.
- 3. Select the two columns of numbers, including the row above the data.
- 4. Pull down the File menu, select NEW and then click on CHART

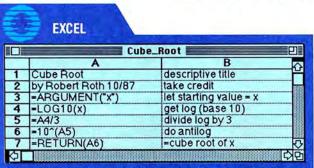
A plot will be created with the heading on the y-axis data appearing as a title. This technique does not work if both columns have a heading above the data, if only the rows containing data are selected or if the row above the x-axis has a heading. In those circumstances, Excel behaves as if an imaginary category column exists and plots both columns of data against a category axis, even if Scatter plot is selected.

R. K. SMELTZER PRINCETON, NJ

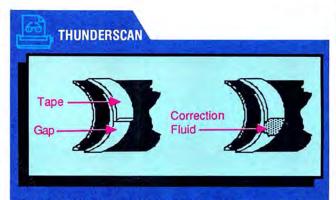
THUNDERSCAN



If you sometimes have trouble with just a few lines of a



This macro will compute all the cube roots you'll ever need.



If the ends of the the white tape at the left side of the ImageWriter roller do not meet smoothly, the image quality can suffer. Fix the problem by carefully applying correction fluid to smooth the tape end

ThunderScan image, it may be because the scanner is having trouble with the end of the timing tape installed on the left end of the Image-Writer roller. The easiest way to see if this is your problem is to scan an image at least 31/4 inches long that contains a series of vertical lines. Watch the Image window closely as the end of the timing tape passes under the scanner. If you see part of the vertical lines displaced to the left, it is probably because the timing tape doesn't reflect light back to the scanner accurately and the scanner misses its timing for a line or two. The problem is more noticeable if you magnify the image being scanned. An easy way to fix the problem is to carefully apply some typewriter correction fluid even with the edge of the tape to fill the gap. If you accidentally get correction fluid on the rubber roller, it can be removed with isopropyl alco-

WILLIAM J. WHIPPLE MADISON, WI

KEYBOARDS

hol.

Mac SE and II buyers actually have keyboard three choices from Apple. They are the Standard, Extended and IIGS keyboards. The IIGS keyboard has the same key arrangement as the Standard keyboard but is about 10 to 15 percent smaller. The feel

of the keys is also slightly different, and the individual keys are relatively unsculpted and easier to rearrange (if, for example, you want to change it to a Dvorak layout). If your dealer doesn't know what you're talking about, refer to Apple part number 658-4081.

BARRY J. SILVER BETHLEHEM, PA

MORE 1.1

When specifying LVT underlined head-MORE™ lines using standard MORE format, printing will underline the leading characters, like this:

Mission Statement Objectives

Strategies

I. Mission Statement

II. Objectives III. Strategies

To only underline the text and not the leading material, set the headline format not to underline at a given level and use the Character format to underline the text only. This provides better looking outlines for presentations and handouts.

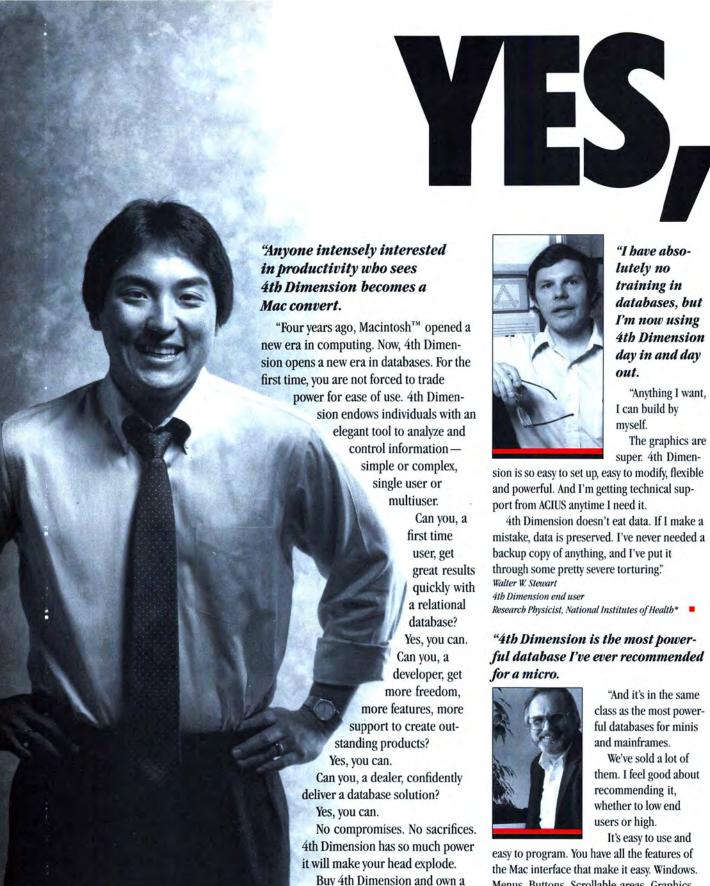
Mission Statement Objectives

I. Mission Statement

II. Objectives

Strategies

III. Strategies LAWRENCE A. ELLIS CRYSTAL, MN



piece of the Macintosh dream."

Ex-Macintosh software evangelist

Guy Kawasaki

"I bave absolutely no training in databases, but I'm now using 4th Dimension day in and day

"Anything I want, I can build by

The graphics are super. 4th Dimen-

sion is so easy to set up, easy to modify, flexible and powerful. And I'm getting technical sup-

4th Dimension doesn't eat data. If I make a mistake, data is preserved. I've never needed a backup copy of anything, and I've put it through some pretty severe torturing."

"4th Dimension is the most powerful database I've ever recommended

"And it's in the same class as the most powerful databases for minis

We've sold a lot of them. I feel good about recommending it, whether to low end users or high.

It's easy to use and

easy to program. You have all the features of the Mac interface that make it easy. Windows. Menus. Buttons. Scrollable areas. Graphics.

It simply gives you all the tools you need to fully exploit the Mac and bring new power to your specific applications.

YOU CAN.

In fact, I've become a developer myself. I wanted a point of sale application to run my business. I developed the system originally on a competitive product, but it didn't have the horsepower to solve the problems. 4th Dimension has the power to do anything I want to do.

I can offer no more sincere testimonial for the products I sell than to use them to manage my own business."

Dick Applebaum

Apple dealer and business co-owner

Computer Plus, Inc.

"When you sit down at a computer, there are two ways to go, IBM® or user friendly.



"In other words, what you see is what you're used to working with.

These are the reasons I like 4th Dimension: It's got the power to do everything I need in a com-

plex vertical market. It's got the interface to make that possible without taking on a second career. It's got layout graphics that can make your product look as good as it works.

You can sit down and use 4th Dimension without doing much to it, and you still have complete power. It has some dynamic, dynamic graphics. All this without programming. The others bog you down in housekeeping chores.

The custom mode enables me to use words, sentences, phrases, and icons that are familiar to my people in the real estate business. I have the ability to customize menus and menu items. I enjoy working with 4th Dimension because of its power, interface, and the ability to create custom programs for my clients. I can't think of anything better than 4th Dimension as a development tool, and I've looked at them all."

Ted Bohrer Developer Concept 2001

"The thing I like best about 4th Dimension is that it works the way I expect it to work.

"The whole screen interface is so much nicer than the others.

With dBASE, TM I spend a lot of time looking at the books and then creating screens. I never get it near right the first ten times.

I really like the way the subfiles work. I use that a lot because I maintain inventory sheets and I need to pull information from other places.

I like how it does everything automatically, like buttons, radio buttons, check boxes, and scrollable windows. You really don't need training to use these features."

Diana Foster
4th Dimension user
PC Coordinator



*The opinion expressed is not an endorsement by the National Institutes of Health nor the Federal Government.

Trademarks: 4th Dimension—ACIUS, Macintosb—Apple Computer, Inc., dBASE—Ashton-Tate. Registered trademarks: IBM—IBM Corporation.

4th DIMENSION™

Want to try it out? Yes, you can!

For \$20, we'll send you a demo disk and comprehensive 50-page user's manual. Call today, and find out what 4th Dimension can do for **you!**

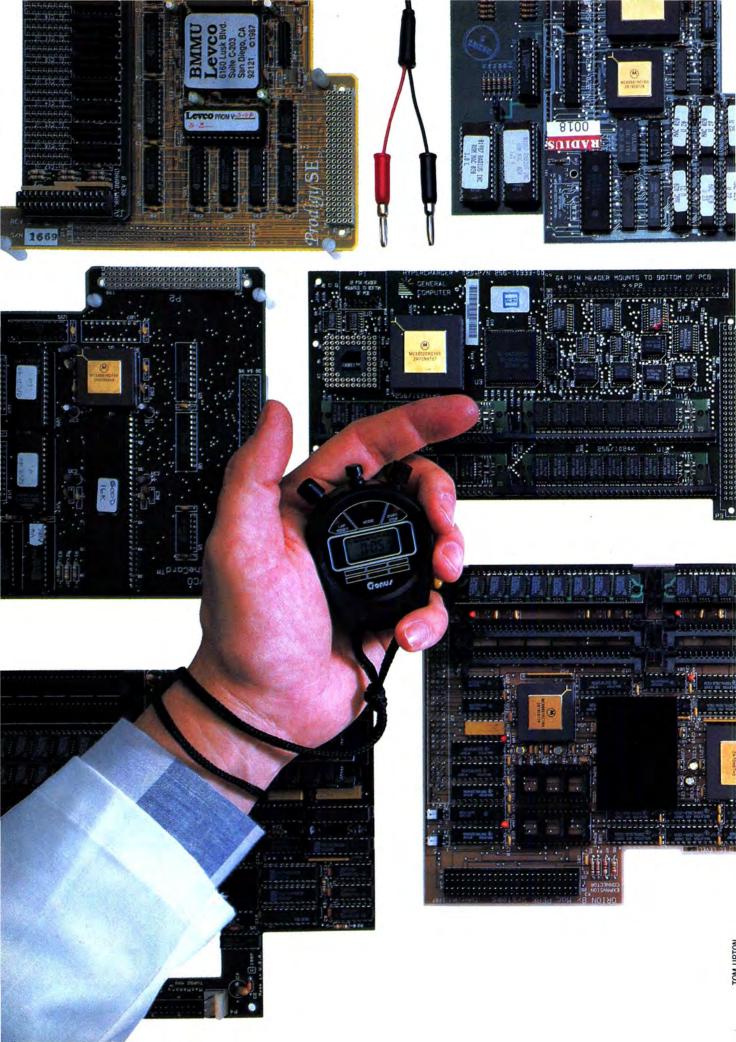
- · Relational database
- Multiuser
- · Object-oriented graphics
- · Customizable interface
- Background processing
- · Over 1,000 developers

Demo Hotline 1-800-538-8157, Ext. 884 (in CA, 1-800-672-3470, Ext. 884)

Please circle 76 on reader service card.

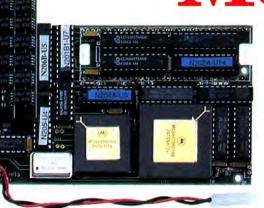


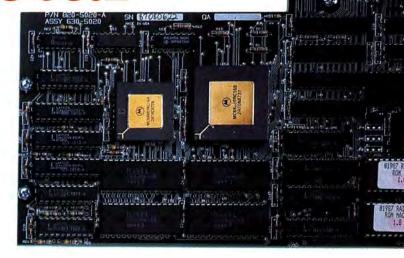






Pedal to the Metal







data to be processed,
speed counts.
Here's how to bring
your Plus or SE
up to Mac II speeds

When there's a lot of

THIS IS THE FIRST MACUSER LABS Report. It will provide you with objective information, so that you can

(and even faster).

select and purchase the proper hardware and software for your situation.

MacUser Labs Reports are not reviews. We have removed all subjective opinion from them. The products covered here (and in all other Reports) have been subjected to intensive, well thought-out tests that you could duplicate — if you had the extensive (and expensive) equipment in the Labs. Many of the tests are simple enough for you to run yourselves. And within the standard margin of error, you'll get the same results.

If you want more information (such as users' opinions) about the products, you'll find it in the regular, "subjective" reviews in *MacUser*. Reviews of products covered in the *Labs Reports* may have already appeared or may be in upcoming issues.

BY CHIP CARMAN, JIM WHITE AND STEVEN BOBKER

The Labs will be reporting on both hardware and software. In this first Report, we've tested nine accelerator boards, add-in units that dramatically and significantly speed up the Mac 512KE, Plus or SE they're installed in. As you'll see, all worked, but they had an interesting mix of features and abilities. Some were easier to install than others; some had better software (or firmware). The price range is also wide. We didn't make any choices; that's up to you.

STEPPING ON IT

When the first Macintoshes were introduced they were hailed as a leap forward in terms of ease of computer use, but had a closed architecture (no expansion slots that could access the control, data and address buses) that made upgrading extremely difficult.

The early Macs were also criticized for their small screen, their lack of color and their seeming slow operation.

Apple soon introduced the Mac Plus which put to rest some of the power and speed complaints. Then the SE was introduced, offering even more speed and power.

The Plus was made more powerful by introducing new ROMs, doubling the memory (RAM) to 1 megabyte, and doubling the disk drive capacity to 800,000 bytes. The board was re-engineered to use single inline memory modules (SIMMs). This new type of memory module allows very easy and simple (snapout, snap-in) memory hardware repairs and upgrades.

The Mac Plus board also included a SCSI (Small Computer System Interface) port which greatly increased the speed of data transfer to and

from hard disks.

The Macintosh SE was the first computer in the Mac line to include an expansion slot. The first products to take advantage of this were the large-screen displays and accelerator boards that make the computer work harder and faster. Unlike most upgrades, which add something to use what's there, accelerator boards actually disable the original central processing unit (CPU) - Motorola 68000 — and include either a newer, faster, more capable CPU, the Mo-



A view of part of the Labs. Several different tests for several reports are being run on the machines

torola 68020, or a faster version of the original 68000 CPU.

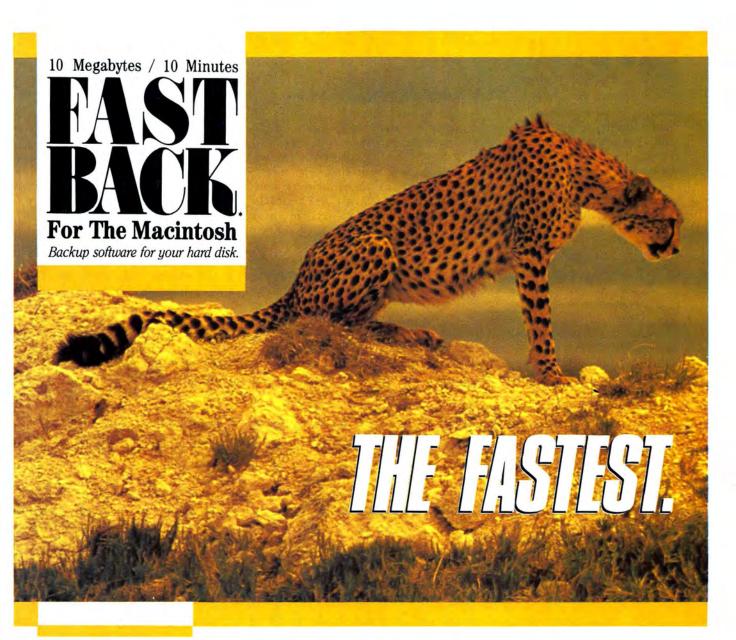
A CLEARER VIEW

To get a better idea of how and why an accelerator board works, we need to take a brief technical digression. If you look at a computer as a system of separate components, much like a stereo system, you can see that altering or changing one of the components doesn't necessarily affect the functional limitations of the other components. Sometimes it just masks them, making the limitations less visible or cumbersome. Real performance increases are elusive. We'll try to separate and define them. An accelerator board cannot speed up how fast the user works, how fast the disk drive works, how fast any external peripheral device works.

The time spent by the CPU waiting for any device or peripheral to accomplish a necessary task is called a wait state. Wait states are not caused exclusively by external devices. The CPU must also wait while instructions and data are brought in from ROM and RAM, results are being calculated and so on. Consider this analogy: Every morning I drive to work. There are several signs and lights which tell me to stop, go, yield or merge. These are strategically located to try to maximize traffic flow while minimizing the likelihood of collisions or accidents.

If all roads and paths were designed as efficiently and effectively as possible, we would rarely have to come to a complete stop. This is true with computers as well. Traffic handling is central to the operating efficiency and speed of a computer system. And as a rule, the computer with the fewest wait states is the fastest computer.

When a computer is initially designed, the engineering team uses the best devices available to them at that time. The CPU used in the Macintosh — the 68000 — has a 16/32bit data handling bus and a 24-bit address bus. It runs at just under 8 megahertz (MHz), and was designed as the first in a line of compatible/





11200 Industriplex Blvd. Baton Rouge, LA 70809

Sales Office: 2691 Richter Ave., Suite 107, Irvine, CA 92714 (800) 225-2775 (714) 553-0111

NOW AVAILABLE FOR THE MACINTOSH

If your backup program isn't fast, you won't use it. Fastback for the Macintosh is the only program that can copy a full 10-Megabyte hard drive to standard floppy disks in less than 10 minutes! The minutes you save with Fastback may add up to hours compared to other backup programs.

Fastback is also the only program that uses advanced **error correction** techniques to recover data from damaged backup disks. And Fastback is **powerful** -- you can backup all your files, select folders and files for backup, or have Fastback select only the files which have changed. Fastback will even count up the disks you need and **print labels** for them.

Protect the data on your hard disk now. Remember, among those who use hard disks on their Macintosh systems, there will only be two types -- those who use Fastback, and those who wish they had! See your dealer today and ask for Fastback from Fifth Generation Systems, the leader in disk backup software.

*This is in no way associated with or has origination in Fisher Scientific or Allied Corporation. Macintosh is a trademark of Apple Computer, Inc.

Pedal to the Metal

expandable microprocessors. It was designed to stand alone, with no provision for the intelligent transmission of information to another processor. This means there are no coprocessor chips available (such as the math coprocessors commonly used in IBM-type machines and with the Motorola 68020, which we'll discuss in a bit) for any 68000-based computer.

Hardware design is such a fastpaced, dynamic field that there is every likelihood that by the time a finished computer arrives on your dealer's shelf, a newer, faster and better design is already available. That has been the nature of microcomputer history, and there's no reason to think that anything is about to change.

That's what happened with the 68000. Soon after the Mac was released, a newer and faster chip was developed. This is the 68020 that is found in the Mac II and on many of the accelerator boards we looked at.

The Motorola 68020 actually has the virtual machine architecture presaged by the 68000. The features of the 68020 include a full 32-bit register, an on-chip instruction cache and the ability to look ahead and prefetch frequently used instructions, which can be stored in the instruction

cache. It can interface with other processors and has the ability to arbitrate where instructions and data on the system buses will go (for example, to a 68881 math coprocessor to support floating point math operations, or to a 68851 paged memory management unit (PMMU)). The 68020 also has a faster clock and can run at 12, 16, 20 or 25 MHz.

Innovations inside the 68020 allow it to accomplish more than one task at a time. This means that several instructions can be executed within a single clock cycle (pipelining). At the same time, the 68020 is object-code compatible with earlier members of the 68000 family (the 68000 and the 68010, which was never used in a Mac). That ensures a very high degree of compatibility with all properly programmed software. If software has been written following Apple's programming guidelines, it will run (with few exceptions) on accelerated Macintoshes as well as the Mac II.

GETTING DOWN TO CASES

When you need or want improved performance from your computer, the first place to turn is to the CPU — the engine, if you will. Increasing its power has the greatest impact on speeding up the computer. That

means either a faster 68000 or a 68020. And the only way to get that power, right now and short of getting a Mac II, is to add an accelerator board.

Let's go back to the driving to work analogy for a moment. When I arrive at the freeway onramp there are no longer the delays encountered on the streets and my car can speed along until I arrive at my exit. In a computer, the freeway is analogous to the address and data buses. The address and data buses transfer information in parallel, and so the wider the bus width, the more information can be transferred in a given time. Bus width is expressed in bits. Therefore, a 32-bit bus is twice as wide as a 16-bit bus, and can transmit twice as much information in the same amount of time.

Data transfer speed is a very important element in assessing a computer's overall speed. Another important aspect of computer speed is how fast events can occur. This is governed by the system clock of a computer. The clock speed of a computer is simply the speed at which the CPU can execute instructions.

Clock speed is expressed in two ways, in millions of cycles per second, or the inverse of that, in millionths of a second. The larger speeds

Hardware Features

	Installation	Computer	Clock Speed (MHz)	Mother- board Memory	Daughter- board Memory	Usage	ROM	Peripheral Expansion Port			68851 Option (4)	Wait States	Added Power Supply	Added Fan	Warranty	Price as Tested (9)
Mac Plus control	mmm	IIIIIIIII	7.833	1M	IIIIII	1111111	111111	N	68000	N	N	1	11111	MIIIII	111111	111111
Mac SE control	11111111	MIMILI	7.833	1M	1111111	IIIIIII	111111	Υ	68000	N	N	11	11111	mmin	111111	VIIIIV
Mac20	U	512E,Plus,SE	7.833	1M	N/A	D	N	N	68020	Υ	N	0	N	N	6 mo	595
Turbo Max	D	512E,Plus	15.667	1M	1.5M	В	N	Y	fast 68000 (2)	γ	N	1	Υ	Y	1 yr	1499
Turbo SE	D/U	SE	15.667	64K	1M	Α	Υ	Υ	fast 68000 (2)	Υ	N	1 or 2 (5)	N	N	1 yr	599
Accelerator Plus	D	Plus	15.667	1M	N/A	С	N	Υ	68020	Υ	N	less than 1 (6)	N	Υ	90 da	995
Mac II control	11111111	mmm	15.667	1M	1111111	1111111	111111	Υ	68020	Υ	Y	2	11111	11111111	111111	111111
Hypercharger 020	D	SE	15.667	1M	1M	В	N	Υ	68020	Υ	N	1	N	N	90 da	1299
Orion SE Accelerator	D/U	SE	15.667	1M	1M	A	Υ	Y	68000	Υ	Y	2	N	N	1 yr	895
Accelerator SE	D	SE	15.667	1M	N/A	C	N	Υ	68020	Υ	N	less than 1 (6)	N	N	90 da	995
Mac20MX	U	512E,Plus,SE	variable (1)	1M	1M	В	N	N	68020	Υ	N	0	Υ	Υ	6 mo	1295
Prodigy SE	D	SE	15.667	1M	1M	В	N	Y	68020	Standard	Y	1	N	N	1 yr	1499 (10)

D = Dealer · U = User

A. Motherboard memory is moved to daughterboard. (You can purchase and install faster memory separately.)

B. Motherboard memory remains intact and the daughterboard is shipped with fast memory

C. The accelerator board uses a fixed amount of very high speed cache memory.

D. No daughterboard or cache memory is used.

in whole numbers or smaller speeds in fractions of a second indicate the faster computers. A clock speed of 16 MHz is twice as fast as a clock speed of 8 MHz.

However, doubling the CPU's speed doesn't mean you'll be able to get twice as much data processing from your computer. There are many aspects of speed beyond the CPU's control. For example, disk drives can't read or write any faster than their design allows, and, if human input is required, a speed increase means you're going to have to learn to type faster.

SANE AND 68881

Understanding what an accelerator will not do can give you a more realistic idea of what to expect from one. Standard testing is based on three benchmark tests: the Dhrystone, the Whetstone and the Sieve. These tests yield results showing how fast the CPU can execute instructions and perform mathematical operations.

The most dramatic increase in speed is when the CPU and its math coprocessor chip are running in a floating point environment. Unfortunately, Apple does not support the floating point environment, but opts for its own SANE (Standard Apple Numeric Environment) for mathematical operations. means that only intensive engineering applications or programs specifically written to take advantage of it can benefit from a math coprocessor. However, for them the speed increase is significant.

The Macintosh also handles mathematical operations in the integer format; this is what the SANE environment supports. The Sieve benchmark is the best test for a speed increase of integer math operations. These operations are not affected by the installation of a math coprocessor and yield a true measure of CPU performance increase. We have included the results of all three standard benchmarks to give you a clear picture of performance increase based on industry standards.

We've also done a series of controlled use tests, using some of the most popular programs. These tests provide a more realistic view of what you can expect an accelerator board to do for you.

THE BENCHMARKS

The 68881 math coprocessor is a companion chip to the 68020 CPU. They can communicate with each other via a set of embedded instructions in a way that is invisible to the application data. The 68881 handles only floating point mathematical operations.

Since most Mac programs support only SANE and not the 68881 accelerator board manufacturers have had to create special "patches" (in firmware or software) that steer math operations to the 68881.

When programs perform tasks that require significant amounts of calculation, the speed improvement that results from properly using a 68881 is astonishing. Performance increases of an order of magnitude or more are not uncommon.

If your computer is primarily used for word processing, page layout, editing, and other input-bound and -intensive operations, not much speed will be gained by using a 68881. Of course, you'll benefit from the faster CPU, but the results will not be nearly as spectacular.

Most accelerator board manufacturers offer the 68881 as an addedcost option (it's not a cheap chip), and you should evaluate your situation carefully to see if it will be cost effective in your situation. We feel most users will not need it.

THE CONTROLLED USE TESTS

All the tested software ran with no (continued on page 120)

Software Features

	Features Control									
	INIT File	Control Panel Access	Desk Accessory	8MHz 68000 Mode	68020 Instruction Cache On/Off	68020 AppleTalk Driver Patch	68020 Sound Driver Patch	SANE Calls to 68881 Co-processor	MacWrite 4.5 Trap (7)	RAM Configuring Software
Mac Plus control	111111	11111111	1111111111	11111111	mmmm	mmmmm	mmmmm	mmmm	mmmm	mmmm
Mac SE control	IIIII	MIIIIII	mmmm	minni	mmmmm	MIMMIMMIM	mmmm	mmmmm	mmmm	mmmm
Mac20	Υ	Υ	Υ	Y	Υ	Υ	Υ	Υ	Υ	Υ
Turbo Max	N	N	N	N	N/A	N/A	N/A	Auto	N/A	Υ
Turbo SE	Υ	N	N	N	N/A	N/A	N/A	Υ	N/A	N
Accelerator Plus	N	N	N	N	N	N	N	Auto	Auto	N
Mac II control	111111	11111111	1111111111	11111111	mmmm	111111111111111111111111111111111111111	mmmmm	111111111111	mmmm	mmmm
Hypercharger 020	Υ	Υ	N	N	Υ	N	N	N	Υ	Y
Orion SE Accelerator	Υ	Y	Υ	N	Y	N	N	Υ	Υ	N
Accelerator SE	N	Υ	N	Y	Y	N	N	Auto	Auto	N
Mac20MX	Y	Υ	Υ	Υ	Y	Y	Υ	Y	Y	Y
Prodigy SE	N	Υ	Υ	Y (8)	Y	N	N	Υ	N	N

^{1.} Clock speed crystal from 16 to 32 MHz. Must be specified when ordering. The unit we tested had

The 68000 on Macs shipped from Apple run at 8MHz, a fast 68000 runs at 16MHz.
 The 68881 is a floating point math co-processor chip.

^{4.} The 68851 is a memory management unit chip (MMU).

^{5.} Automatically configured on the card depending on the the memory speed.

^{6. 92%} at 0 wait states, 8% at multiple wait states.

This patch is needed for MacWrite version 4.5 or earlier

Via programmer's switch routine.
 Accelerator board without 68881 and with 1M daughterboard RAM if available.

^{10.} Includes math co-processor.

Overnight Delivery.



Micro Education (MECA) ... CP
Managing Your Money—Everything for managing
and mastering your personal finances: personal
budgeting, check writing, tax planning, portfolio
management, net worth, and more ... \$129.

ConcertWare + (music composition) 3	19.
ConcertWare + MIDI	
Greene, Inc NCP	
QuickDEX (address book)	14.
Hayden Software CP	
MusicWorks (songs for your Mac)	29.
Score Improvement for the SAT or ACT 5	8.
Ideaform NCP	
MacLabeler or DiskQuick	28.
201 Quicklabels	18.
HyperBook Maker (print stacks into book) 4	2.
Imagine NCP	
Smart Alarms (DA reminder system) 3	35.
Multi-user Appointment Diary	19.
Infosphere CP	
LaserServe (network software) 6	64.
ComServe (NCP, modern sharer) 12	4.
MacServe (network software) 16	
Innovative Data Design NCP	
MacDraft 1.2A (requires 512k) 15	55.
Kensington	
Professional Type Fonts for Text	9.
LaserWare CP	
LaserWorks (requires 512k, LaserWriter) 19	15.
LaserPaint (requires Mac Plus) 3	5.
Layered CP	
Notes for Excel or Microsoft Works	11.
Notes forPageMaker or Ready, Set, Gol3 4	11.
Notes forMicrosoft Word	11.
Legisoft/Nolo Press NCP	
WillMaker 2.0 (prepare your own will) 3	10.
Letraset NCP	
Image Studio (image processing software) 27	
Ready.Set.Go! 4.0 (page layout) 27	9

Charles and Charle	
Linguist's Software NCP	
Tech (1000 different symbols) \$59.	
FOREIGN LANGUAGE FONTS	
SuperFrench/German/Spanish 39.	
MacGreek New or Old Testament 79.	
MacHieroglyphics, MacKana/Basic Kanji,	
MacSemitic/Coptic/Devanagari, MacKorean,	
MacThai, SuperGreek, MacHebrew,	
MacCyrillic, MacAkkadianeach 59.	
MacLabran Old Testament	
MacHebrew Old Testament	
MacChinese	
MacGreek/Hebrew/Phonetics 89.	
LaserFrench/German/Spanish 79.	
LaserGreek or LaserHebrew	
Laser Transliterator 79.	
LaserTech	
LaserCyrillic	
Living Videotext NCP	
More 1.1C (outlines, windows, & tree charts) 175.	
Lundeen & Associates NCP	
WorksPlus Spell 1.1 49.	
WorksPlus Command	
MacroMind NCP	
Vide Wester II (enimetics to all	
VideoWorks II (animation tool)	
MacroPac International NCP	
101 Macros for Excel	
Magnum CP	
McPic Vol. 1 or Vol. 2	
The Slide Show Magician 1.3 35.	
Micro Analyst NCP	
Mac Zap (recover crashed hard disks) 39.	
Micro Education (MECA) CP	
Managing Your Money 129.	
Microlytics NCP	
Word Finder (synonym finder)	
Microsoft NCP	
Basic Interpreter 3.0 62	
Basic Interpreter 3.0 62 Chart 1.02 (42 chart styles, CP) 72	
Multiplan 1.1 or File 1.05	
Multiplan 1.1 or File 1.05	
Microsoft Write	
Basic Compiler 1.0	
Fortran 2.2 (compiler) 169.	
Works 1.1 (integrated tool)	
Excel 1.04 (power spreadsheet) 224.	
Word 3.01 (word processor) 239.	
Migent NCP	
In House Accountant (small business) 99.	
Miles Computing NCP	
Mac the Ripper Vol. 3 (req. Paint program) 27.	
Orchestra of Fonts Vol. 4 (30 different fonts) 27.	
Peoples, Places & Things Vol. 5 27.	
Mindscape NCP	
The Perfect Score: SAT (CP) 47.	
Comio Morke (greate your sum semise)	
ComicWorks (create your own comics) 47.	
GraphicWorks 1.1 (newsletters & posters) 87.	
Monogram NCP	
Forecast (tax planning)	

Dollars & Sense (home, small business) \$8
Business Sense (full-featured) 282
Nantucket NCP
McMax (dBASE III compatible) 185
Nashoba Systems NCP
FileMaker Plus (feature-packed database) . 149
North Edge Software NCP
Timeslips III (time & expense tracking) 119
Odesta NCP
Double Helix II (relational, custom menus) 349
Olduvai Software NCP
DA-Switcher (unlimited desk accessories) 26
Post ART (clip art, 3 disk set)
Icon-It! (create custom icon bars) 4
Read-It!TS (OCR software for Thunderscan) 79
Read-It! (300 dpi OCR software) 159
Construction of the second sec



Olduvai Software ... NCP lcon-lt!—Create an icon bar using your own designs, or choose from 30 + templates .. \$41. DA-Switcher—Organizes and allows multiple sets of desk accessories \$26.

OWL International ... NCP

duide (riypertext, free-form frilo)
Guide Envelope System 9
Palantir NCP
MathFlash or WordPlay
MacType (typing instruction, NCP)
nTalk (communication to emulation, NCP) 9
Passport Designs CP
Mastertracks Pro 25
PBI Software NCP
HFS Locater (DA organizer for HFS) 2
HD Backup (supports MFS, HFS)
Personal Computer Peripherals NCP
HFS Backup
ProVUE Development NCP
OverVUE 2.1 (power-packed database) 14
Dubless Bublishins CD

Dinner At Eight-Encore Edition Bundle . .

1-800/Mac&Lisa 800U



MacConnection

MacConnection, 14 Mill Street, Marlow, NH 03456 1-800/622-5472 or 603/446-7711

©Copyright 1988 PC Connection, Inc. MacConnection is a division and trademark of PC Connection, Inc.

All items subject to availability. Prices subject to change without notice.

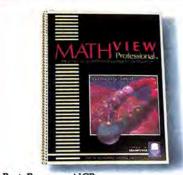
*Defective software replaced immediately. Defective hardware replaced or repaired at our discretion.

\$3 does it all.

SOFTWARE

NCP denotes not copy-protected. CP denotes copy-protected.

Aba Software NCP
"Draw it again Sam" (color & layers) \$95.
Activision NCP
Postcards (clip-art, card stock) 20
Business Class (atlas, reg. Hypercard) 30.
Focal Point (organizer, req. Hypercard) 64.
Aegis Development NCP
Doug Clapp's Word Tools
Affinity Microsystems NCP
AffiniFile (DA filer) 49
Tempo 1.2 (power user's macro utility) 53.
Tempo II (updated, auto installation) 89
Allan Bonadio Associates NCP
Expressionist 1.1 (equation processor) 52
ALSoft NCP
DiskExpress (maximize disk performance) 27.
Font/DA Juggler 27
Altsys NCP
FONTastic Plus (advanced font editor) 48.
Fontographer (LaserWriter font editor) 239



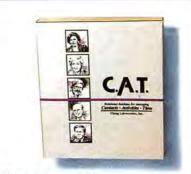
BrainPower ... NCP
MathView Professional—Superb mathematical and computation program. Handles linear and non-linear equations, 2 and 3 dimensional plotting, stats and series operations, etc. \$149.

Ann Arbor NCP
FullPaint (advanced Paint program) 49.
Ashton-Tate NCP
dBASE Mac 1.0 (relational, reg. MacPlus) 295.
Batteries Included NCP
Thunder! 1.1 (spelling checker) 31.
Isgur Portfolio (portfolio management) 129.
Berkeley System Design NCP
Stepping Out (requires 512k) 55.
Blyth NCP
Omnis 3 Plus/Express (database) cal
Omnis 3 Plus/Express (2-5 users) cal
Omnis 3 Plus/Express (6-10 users) cal
Bogas Productions NCP
Studio Session (music creation) 52
Country or Heavy Metal Rock Disk 15.
Borland International NCP
Turbo Pascal Tutor
Numerical Methods Toolbox 65
Sidekick 2.0 (includes MacPlan) 65
Turbo Pascal (HFS compatible) 65
Eureka: The Solver
Reflex Plus (info management tool) 179

-	Ó	Temp	υT		
1	440,044	1emp			
	and the last				
		the sent skill a	Materia sayua		
		systems			
plex key:	strokes a	and play and mous	e move	ments. Fr	ee
yourself creative v	from rep work! U	ses no D	ork and A slots.	get back	to \$89.

BrainPower NCP
Thinkfast (memory improvement) 23.
StatView (statistics package)
Graphidex (DA graphics organizer) 65.
DesignScope (electronic circuit design) 128.
MathView Professional (num. analysis) 149.
StatView 512+ (req. external drive, 512k) 178.
Bravo Technologies NCP
MacCalc (easy to use spreadsheet) 79.
Broderbund CP
Jam Session (create your own tunes) 30.
Print Shop (create cards and memos) 36.
Geometry (over 350 problems!) 60.
Physics (over 300 problems!) 60.
CAMDE NCP
Nutricalc (diet & nutrition analysis) 49.
Nutricalc Plus (full-featured program) 175.
CasadyWare NCP
Fluent Fonts (two-disk set) 28.
Fluent Laser Fonts (Vols. 1-15) each 46.
CE Software NCP
Calendar Maker (create custom calendars) 32.
Disktop 3.0 (powerful DA Finder) 32.
QuicKeys (reduce mouse movements) 69.
Challenger Software NCP
Mac3D (3D graphics, CAD features) 127.
Chang Labs NCP
Rags to Riches Ledger
Rags to Riches Payables
Rags to Riches Receivables 120.
Rags to Riches Three Pak
C.A.T. (contacts, activities, time) 239.
Inventory Control or Professional Billing 239.
Professional Three-Pak
Retail Business 3 Pak
Cortland CP
TopDesk 2.3 (7 new desk accessories) 33.
Cricket Software NCP
Pict-O-Graph (color on the Mac II) 105.
Cricket Graph (multiple windows) 119.
Cricket Draw (advanced draw capabilities) 169.
Data Tailor NCP
Trapeze 2.0 (spreadsheet, graphics & more) 205.
DataViz NCP
MacLink Plus (transfer Mac/IBM data) 149.
Davidson CP
Math Blaster! (grades 1-6)

	Deneba Software NCP	
	Merriam-Webster's Thesaurus\$	
	Comment (electronic Post-It notes)	
	Canvas 1.0 (includes desk accessory)	119.
C	Dove Computer NCP	
F	RAMSnap (RAM Disk/Disk Cache)	21.
	Dow Jones CP	
١	Market Manager Plus	59.
E	Oubl-Click Software NCP	
(Calculator Construction Set	37.
٧	Vorld-Class Fonts! (both volumes)	45.
	VetPaint Clip Art (both volumes)	45.
	Electronic Arts CP	
	Disk Tools Plus (8 DAs plus tools)	33.
E	Deluxe Music Construction Set 2.0	62.
	Enabling Technologies NCP	
E	asy3D (create solid 3D objects)	79.
F	Pro 3D (3D shaded modeling)	99.
E	nzan-Hoshigumi USA NCP	
J	lapanese Clip Art Scroll 1 "Heaven"	59.
J	Japanese Clip Art Scroll 2 "Earth"	59.
J	Japanese Clip Art "Borders" Scroll	69.
١		115.
F	ifth Generation Systems NCP	
F	astBack Mac (powerful backup utility)	59.
1	st Byte CP	
١	Mad Libs (w/synthesized speech)	14.
	First Shapes (all about sizes & shapes)	32.
+	(id Talk ("talking notebook")	32.
N	Math Talk (math learning tool)	32.
	Math Talk Fractions (great homework helper)	
5		32.
5	Speller Bee (spelling learning tool)	32.
F	orethought NCP	
F	actfinder 1.1 (information organizer)	39.
F	FileMaker 1.0 (custom design reports)	49.
F	PowerPoint 1.0 (presentations)	89.
F	Foundation Publishing NCP	
(Comic People (create your own characters)	26.
	Comic Strip Factory (create cartoons)	
F	WB Software NCP	
1	Hard Disk Partition	37.
H	Hard Disk Util (program backup)	55.
(Great Wave Software NCP	
	imeMasters (learn about time, ages 4+)	22.
	KidsTime (educational, ages 3-8)	
(Crystal Paint (graphic symmetries)	32.
1	American Discovery (U.S. facts & fun)	39.
	And the second s	



Chang Labs ... NCP C.A.T.—Powerful relational database for managing Contacts, Activities, and Time.. Use to organize events, meetings, day-to-day projects, expense reports, personal records, etc. . . \$239.

Prime Numbers. Sum service! Sum support!

It wasn't easy fitting the runway between the apple trees, but your orders now ship Airborne Express for overnight delivery. (Orders within UPS Ground Zone 1 ship UPS for next day delivery.)



DC 9



8:00 PM

Practically all orders phoned in by 8:00 PM EST will ship the same night for next day delivery (in most cases by noon). You could almost set your clocks on it.

Three slick little greenbacks. Enough for a cup of gourmet java, or to fly your order anywhere in the continental U.S. overnight.

That's it, the total shipping charge for our exclusive Fly-by-NightSM service. \$3.00, inclusive.



\$3.00

120 days

172,800 minutes free of fear of failure. Every single product we sell is warranted by us for at least four months. In addition, many manufacturers warranties extend up to five years and beyond.



Because our inventory turns over so quickly you'll only receive the latest versions. Period.



The extras are standard.

- No sales tax.
- No charge for insurance on U.S. orders.
- No surcharge for credit card orders.

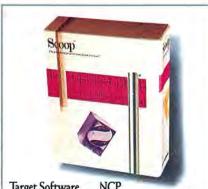
\$0.00

- No freight charge on backorders.
- No charges to your credit card until we ship.
- No charge for sales or technical support calls.

MacConnection

14 MILL STREET, MARLOW, NH 03456 1-800/Mac&Lisa or 603/446-7711
© Copyright 1987 PC Connection, Inc., MacConnection is a division and trademark of PC Connection, Inc., Marlow, NH.

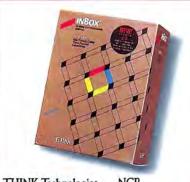
Latest versions.



Target Software ... NCP
Scoop—Get the Scoop on all the desktop publishing features you're looking for: WYSIWYG, text wrapping, spot color separations, automatic hyphenation, kerning, fonts, and more \$299.

Satori NCP	
BulkMailer 3.0 (mailing lists) 82	2.
BulkMailer Plus (up to 90,000 names) 199	
Legal Billing (attorneys to accountants) 379).
Legal Billing II (full trust accounting) 569).
Project Billing (architects to engineers) 439	
Silicon Beach Software NCP	7
Silicon Press (printer utility, 512k) 41	
SuperPaint (advanced graphics program) 79	,
Simon & Schuster NCP	
Typing Tutor IV (typing instruction)	
SoftChale NCD).
SoftStyle NCP	,
Epstart (Epson printer driver)	
Laserstart (Hewlett-Packard Laserjet) 58	3.
Printworks for the Mac (Daisywheel) 45	Ď.
Printworks for the Mac (Dot Matrix) 56	Š,
Printworks for the Mac (LaserWriter) 85	j.
SoftView NCP	
MacInUse (time-use manager) 42	2.
Software Discoveries NCP	
Merge Write (MacWrite mail merge) 35	i.
Record Holder Plus (data manager) 45	
Software Supply NCD	
Suitcase (font and DA utility)	2
PowerStation (alternative to Finder)	2
Software Ventures NCP	١.
	,
Microphone 1.1 (includes Glue™) 119	7.
Solutions, Inc NCP	
SmartScrap & The Clipper	٠
SuperGlue (total graphic integration) 56	j.
The Curator (access your artwork) 79).
Springboard CP	
Art a la Mac Volume 1 or 2 (NCP) 23	١.
Early Games or Easy as ABC 28	١.
Certificate Maker (requires 512k) 35	j.
Certificate Library Vol. 1 19	1.
SuperMac Software NCP	
SuperSpool 3.4	
SuperLaserSpool 82	,
Multi-User SuperLaserSpool 205	
Diskfit (backup & restore utility) 54	Ĺ
Network Diskfit (automatic back up) 205	
Sentinel (encryption)	
Pixel Paint (color Paint program) 265	
Survivor Software NCP	
MacMoney (financial planner) 40	1
Symmetry NCP	
Acta 2.0 (outline/writing desk accessory) 36	
nota 2.0 (outilitie/writing desk accessory) 30	١,

PictureBase 1.2 (clip art manager, 512k) \$59
Target NCP
Scoop (composition & page layout) 299
Think Educational CP
MacEdge II (math & reading)28
Mind Over Mac (memory & strategy) 28
THINK Technologies NCP
HFS Navigator (search for buried files) 35
Laserspeed (LaserWriter utility) 55
Lightspeed Pascal
Lightspeed C (top-rated C Compiler) 95
CAPP's for Lightspeed C
CAPP's for Lightspeed Pascal 49
InBox Starter Kit (CP) 209
InBox Personal Connection (Mac & PC) cal
T/Maker NCP
ClickArt Personal Graphics 28
ClickArt Effects
ClickArt Publications
ClickArt Letters Vol. 1 or 2
ClickArt Holidays
Click At Business Images
ClickArt Business Images
Christian Images
Bombay, Plymouth, or Seville Laser font 45



THINK Technologies ... NCP
InBox—End paper clutter. Send messages through
your Apple Talk network! Includes message
center and 3 personal connections \$209.
InBox Personal Connections (Mac) \$75.

Write Now (word processor) 99.
TML Systems NCP
TML Source Code Library
IML Database lookit
TML Pascal (compiler, req. 512k) 59.
TOPS CP
TOPS (file-server/LAN software) 119.
TOPS PRINT
TOPS for the PC
True BASIC NCP
PROGRAMMING LIBRARIES
True BASIC (fast, flexible, & portable) 59.
Runtime (create stand-alone applications) 59.
Advanced String or 3D Graphics
CHIPendale
EDUCATIONAL SOFTWARE
Algebra I or II, Pre-Calculus, Trigonometry,
Discrete Math, Probability, Calculus,
Arithmetic & MacFunction each 35.
TrueSTAT (statistics)
Unicorn CP
Animal Kingdom (ages 6-12)
Decimal Dungeon (math, ages 9 and up) 27.
Fraction Action (arcade style math game) 27.

Mac Robots (pre-school program) \$	27
Math Wizard (math games, ages 5-10)	
Read-A-Rama (reading, ages 5-8)	
William & Macias NCP	
myDiskLabeler (design & print labels)	24
myDiskLabeler w/Color (reg. ImageWriter II)	32
myDiskLabeler w/LaserWriter option :	35
216 Smart Labels (for ImageWriter)	15
Working Software NCP	
Lookup (90,000 word dictionary)	29
Findswell (locate documents fast)	32
Spellswell (spelling checker)	42
Spellswell Legal or Medical Dictionary	57

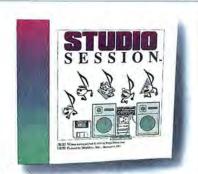
GAMES	9.0
Accolade CP	
Hardball (baseball simulation)	23
Tass Times in Tonetown	21
Shanghai (Mah Jongg strategy)	24
Portal (sci-fi novel)	
Addison-Wesley CP	
Puppy Love (you and your dog will love it!)	19
Ann Arbor CP	
Grid Wars (3D arcade)	22
Avalon Hill CP	
MacPro Football (req. 1 Meg)	
MacPro Football 85 Team or Season	16
Baudville CP	
Guitar Wizard (learning tool for guitar)	22
Ted Bear's Rainy Day Games	22
Blue Chip CP	
Millionaire or Baron	35
Broderbund Software CP	
Lode Runner (over 150 levels)	
Ultima III (fantasy adventure)	
Ancient Art of War (military strategy)	21
Toy Shop (create working models)	31
Bullseye CP Ferrari Grand Prix (Formula One racing)	22
Fokker TriPlane Flight Simulator	
Electronic Arts CP	33
Ogre (tank simulation)	20
Skyfox, Pinball Construction Set,	20
Patton vs Rommel, Archon,	
Dr J vs Larry Bird, Scrabble each	27
Chessmaster 2000	
OHESSHIASIEI 2000	23



Software Discoveries ... NCP
Merge Write—Stop retyping the same information, and merge letters and other documents
with Mac Write. Sorts on different fields and
allows complex conditions. \$35.

Toll-free support.

Epyx CP
Sub Battle Simulator (NCP) \$24.
Winter Games (Olympic events) 24.
Greene, Inc NCP
Crystal Quest (color on Mac II) 24.
Hayden Software CP
Perplexx (scrabble-type game) 24.
Sargon III (9 levels of chess)
Infinity Software CP
Go (4000-year-old strategy game) 22.
Grand Slam (tennis, req. 512k) 27.
Infocom CP
Leather Goddesses, Nord & Bert,
Bureaucracy, Hollywood Hyjinx,
Lurking Horror, Plundered Hearts.
Borderzone, Stationfall (standard) each 24.
Beyond Zork



Classic Mystery Library: Moonmist,
Suspect, & Witness
Science Fiction Classics: Hitchhiker's,
Planetfall, & A Mind Forever Voyaging 36.
Zork Trilogy
Invisiclues Hint Booklets (please specify) 6.
MacroMind NCP
Mazewars+ (play via modem or network) 31.
Microsoft CP
Flight Simulator (the Mac takes flight) 32.
Micro Sports CP
MSFL Pro League Football
Miles Computing CP
Harrier Strike Mission II 27.
Quintette (ancient Chinese board game) 27.
Down Hill Racer (3D ski simulation) 27.
Fool's Errand (solve the puzzles) 27.

Fool's Errand Hint Booklet	\$7.
Crossword Magic	. 30.
Balance of Power (world politics)	. 30.
King of Chicago (req. minimum 512E)	30.
Chadamata (acatla advantura)	. 30.
Shadowgate (castle adventure)	
Uninvited or Deja Vu	
Trust & Betrayal: The Legacy of Siboot	. 30.
Defender of the Crown (req. 800k drive)	. 30.
Olduvai Software NCP	4.0
Maze Survival (action game)	. 21.
PBI Software CP	
Strategic Conquest (multi-user)	. 35.
Primera Software CP	
Smash Hit Racquetball (top-rated!)	. 15.
Smash Hit Racquetball II	. 22.
Psion CP	
Psion Chess (3D and multi-lingual)	. 31.
Rainbird CP	
Pawn (text-graphics adventure)	. 27.
Sierra On-Line CP	
Leisure Suit Larry (swinging single life)	. 24.
King's Quest I, II or III	
Space Quest	. 30.
Silicon Beach Software NCP	
Airborne! (CP, the classic!)	. 20.
Airborne! (CP, the classic!) Enchanted Scepters (CP, over 200 scenes)	21.
Dark Castle (top-rated arcade action)	. 27.
Apache Strike (helicopter 3D action)	. 27.
World Builder (program creator)	. 41.
Simon & Schuster CP	
Star Trek—The Kobayashi Adventure	24
Sir-Tech CP	
Mac Wizardry (high-rated fantasy)	35
SPHERE, Inc NCP	. 00.
Tellstar II (No. & So. hemispheres, reg. 512k	15.
GATO (submarine simulator)	
Orbiter (space shuttle simulation)	. 26.
Falcon (F-16 flight simulation)	. 20.
	. 21.
XOR NCP	CC
NFL Challenge (be the coach!)	. 65.
HARDWARE	

Manufacturer's minimum limited warranty period is listed after each company name. Some products in their line may have longer warranty periods.

NOTE: Some hardware items are available in either platinum or beige color. Please specify.

Apricorn 1 year	
ApriCord Mac (for Mac 512k or Mac Plus)	75
AST Research 6 months	
AST TurboScan (300 dpi scanner)	1385
AST TurboLaser P/S	2995

Curtis Manufacturing lifetime
SURGE SUPPRESSORS
Safestrip (6 outlets) \$21.
Diamond (6 outlets)
Emerald (6 outlets; 6 ft cord)
Sapphire (3 outlets; EMI/RFI filtered) 47
Ruby (6 outlets; EMI/RFI filtered; 6 ft cord) 59.
Dove Computer 90 days
Toolkit (clamp, torx driver & wrist strap) 15.
SCSI Interface/Port 95.
MacSnap 524 (512k to 1 Meg) 175
MacSnap 524S (512E to 1 Meg w/SCSI) 219.
MacSnap 548 (512k to 2 Meg) 399.
MacSnap 548S (512E to 2 Meg w/SCSI) 459
MacSnap 2S (1 Meg to 2.5 Meg) 489
MacSnap 4S (1 Meg to 4 Meg) 969
MacSnap 8S (for Mac II, to 8 Meg) 1939
MacSnap Plus 2 (MacPlus to 2 Meg) 289
MacSnap Plus 4H (MacPlus to 4 Meg) 969.
Ergotron 1 year
Mouse Cleaner 360°
Mouse Cleaner 360°
MacTilt (for large monitor) 89
Farallon Computing 1 year
PhoneNET-AppleTalk 120 9
PhoneNET PLUS (DB-9 or DIN-8) 45
TrafficWatch
Hayes 2 years
Smartcom II (communications software) 88
Smartmodem 1200 299
Smartmodem 2400
MacPlus 1200 or 2400 Package cal
Kensington 1 year
Appletalk Cable Clips or Connectors each 1



1-800/Mac&Lisa 800U



MacConnection

MacConnection, 14 Mill Street, Marlow, NH 03456 1-800/622-5472 or 603/446-7711

©Copyright 1988 PC Connection, Inc. MacConnection is a division and trademark of PC Connection, Inc.

All items subject to availability. Prices subject to change without notice.

*Defective software replaced immediately. Defective hardware replaced or repaired at our discretion.

No hidden charges.

External Drive Cover
Mouseway (mouse pad) 8.
Mouse Pocket (for your idle mouse) 8.
Mac Plus/Mac SE Cover 9.
ImageWriter II Dust Cover 9.
Printer Stand
Mouse Cleaning Kit w/Mouse Pocket 17.
Disk Drive Cleaning Kit
Tilt/Swivel
Universal Copy Stand
Polarizing Filter (for MacPlus or SE) 34.
Surge Suppressor
Apple Security Kit
Printer Muffler (80 column)
Printer Muffler (132 column) 51.
Printer Muffler Stand (80 or 132 column) 25.
A-B Box (for the Mac Plus) 64.
System Saver Mac 64.
Control Center
Turbo Mouse (for the MacPlus & SE) 83.
Koala Technologies 90 days
MacVision (digitizer, includes MoreVision) 175.
Kraft Systems 1 year
3-Button QuickStick
Migent 1 year
Pocket Modem (ext. 300/1200 baud) 169.
Mirror Tocharlesias 1 year
Mirror Technologies 1 year
Magnum 800 External Drive (platinum) 199.
MagNet 30x (w/cable & print spoolers) 799.
Magnum Tape 40 Backup 999.
MagNet 40/40 (40 Meg, 40 Meg tape) 1995.
MSC Technologies lifetime
A+ Mouse (optical mouse) 79.
A+ Mouse ADB (for Mac SE & II) 89.
Nuvotech 1 year
EasyNet/AppleTalk cable
EasyNet (DIN 8 or DB9 connector) 28.
Orange Micro 1 year
Grappler (universal parallel interface) 69.
Passport Designs 90 days
Passport MIDI Interface 95.
Personal Computer Peripherals 2 years
MacBottom HD 21 Meg (SCSI)
MacBattam UD 20 Mag (SCSI)
MacBottom HD 32 Meg (SCSI) 899. MacBottom HD 45 Meg (SCSI) 1159.
MacBollom HD 45 Meg (SCSI)
Optional built-in 1200 baud modems
available for the above MacBottom units call
MacBottom IHD-144 Meg (for Mac II: 1 vr.) 2195



Practical Peripherals 5 years
1200 Baud External Modem \$109.
2400 Baud External Modem 189.
SoftStyle 90 days
MacEnhancer (for plotters to printers) 159.
Summagraphics 90 days
MacTablet 12" x 12" 379.
Systems Control 2 years
MacGard (surge protection)
Thunderware 90 days
ThunderScan 4.0 with PowerPort 199.
Mac II Power Accessory 42.
Western Automation
DASCH RAMdisk 2000K 399.

DISKS

 Double-sided diskettes.

 Sony 3½" DS/DD Disks (box of 10)
 18.

 Fuji 3½" DS/DD Disks (box of 10)
 19.

 MAXELL 3½" DS/DD Disks (box of 10)
 20.

 Verbatim 3½" DS/DD Disks (box of 10)
 20.

 3M 3½" DS/DD Disks (box of 10)
 20.



MSC Technologies ... lifetime

A + Mouse—An all optical mouse with no moving parts. Lightning fast, exceptionally accurate cursor control. Includes mouse pad.

A + Mouse ... \$79.

A + Mouse ADB ... \$89.

INFORMATION SERVICES

ACCESSORIES

Clean Image Ribbon Co.	41
Clean Image Ribbon Kit	10
Computer Coverup	
External 800k Drive Cover	. 4
ImageWriter II Cover	. 8
Mac Plus or Mac SE Cover Set	10
I/O Design	
Available in navy blue.	
Imageware II (ImageWriter II carry case)	45
Macinware Plus (Mac Plus carry case)	
Macinware SE (Mac SE carry case)	
Kalmar Designs	
Teakwood Roll-top Case (holds 45 disks) .	14
Teakwood Roll-ton Case (holds 90 disks)	20

Teakwood Roll-top Case (holds 135 disks)



ThunderWare ... 90 days
ThunderScan and PowerPort—Replaces your Image-Writer's ribbon cartridge to scan and reproduce high quality digitized images (up to 300 dpi).
Saves true gray scales, and line art. \$199.

Mouse Mover (let your mouse ride!) 14. Moustrak Moustrak Pad (standard 7" x 9") 8. Moustrak Pad (large 9" x 11")............9. Ribbons ImageWriter Ribbons. 5. Available colors: black, blue, brown, green, orange, purple, red, yellow and silver. Rainbow Pack (6 single color ribbons) 25. Four Color Ribbon (requires ImageWriter II) 11. Sensible Softworks Quality "MacAttire" nylon dust covers. . . 7-17. High Trek ImageWriter II carry case 49. High Trek Mac SE & ext. kybd. carry case 69. Smith & Bellows Mahogany case (holds 90 disks) 28.

OUR POLICY

- We accept VISA and MASTERCARD.
- No surcharge added for credit card orders.
- Your card is not charged until we ship.
- If we must ship a partial order, we never charge freight on the shipment(s) that complete the order.
- No sales tax.
- All U.S. shipments insured; no additional charge.
- APO/FPO orders shipped 1st Class Mail, charged by weight.
- Allow 1 week for personal and company checks to clear.
- COD max. \$1000. Cash or certified check.
- 120 day limited warranty on all products.*
- To order, call us anytime Monday thru Friday 9:00 to 9:00 EST, or Saturday 9:00 to 5:30 EST. You can call our business offices at 603/446-7711 Monday through Friday 9:00 to 5:30 EST.

SHIPPING

Continental US: Barring massive computer failures and other natural or unnatural catastrophes, all non-C.O.D. orders phoned into MacConnection by 8 PM EST will ship Airborne the same night for next day delivery, except for those within UPS Ground Zone 1 (which is also an overnight service). The total freight charge on any order placed with MacConnection is now \$3. Backorders will also ship Airborne overnight at no additional charge. Some areas require an additional day delivery. Hawaii, Alaska and Outside Continental US: Call 603/446-7711 for information.

Pedal to the Metal

problems. Most software will be 100 percent compatible, with exceptions mainly due to the prefetch capability of the 68020.

There are also a few programs that modify their code or instruction library as they run. When the expected instruction is fetched from the processor's instruction cache — instead of from ROM or RAM memory where an altered condition for that instruction may be — the computer can hang or bomb. That's a 68020 problem, and does not affect the boards that use a faster 68000 CPU (the MacMemory products).

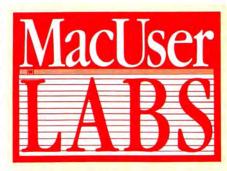
All tests were run using an Apple HD40SC. Applications and documents were kept in two separate folders. If a hard drive was written to or read from during test, the hard drive was reformatted and reloaded before each test. All tests were repeated (never less than three times and often more). All times shown are the average of the tests.

Excel Load In this test we loaded a 235K Excel (version 1.04) loan-amortization spreadsheet from a cold start and measured the time it took to load the application template. The time interval was measured from mouse-up with OPEN selected on the Menu bar to the time when the watch icon changed to the pointer.

Excel Recalculation This test was run directly after completing the Excel loading test; we did not perform a cold start. We took the same 235K Excel spreadsheet, entered a loan amount of \$200,000, and measured the time it took to recalculate. The time interval was measured from mouse-up with CALCULATE NOW selected to the time when the watch icon changed to a bold cross.

Word Scroll This test was designed to measure the amount of time used for scrolling large text documents. We used Word 3.01 and loaded a 95K (55-page) text document from a cold start. The time started on mouse-down at the downward right-hand scroll bar arrow, and stopped when a single bold marker line stopped at the top of the window.

MacDraw Redraw This test was designed to test the amount of time taken to redraw large graphic images. For this test, we used a 51K



Benchmark Tests: Accelerator Boards

Performance Times (All times in seconds)

Product	Normalized Average	HyperCard Sort	4th Dimension Sort	Excel Recalculation	Word Scroll	Load Applicati
Mac Plus control	100	362.0	223.1	37.0	241.9	55.9
Mac SE control	87 82	311.4 244.4	189.9 183.6	30.5 35.4	210.8 212.6	46.9 53.3
Mac20						
Turbo Max	62	0.0	168.6	17.1	192.0	37.4
Turbo SE	56	194.0	122.5	19.0	141.8	33.2
Accelerator Plus	40	132.5	81.0	11.1	116.9	35.7
Mac II control Hypercharger 020	40 38	33.7 84.6	62.6 72.8	10.8	219.7 99.2	22.6 22.0
Accelerator SE	34	114.9	71.3	10.3	99.5	23.7
Mac20MX	31	87.4	67.6	10.9	92.7	22.6
Prodigy SE	24	27.4	54.7	9.8	93.1	18.5

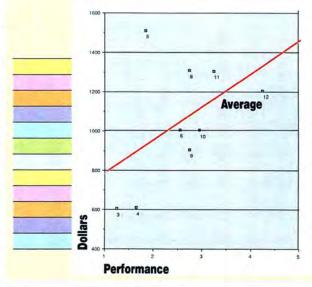
Price/Performance Ratio

After all our testing, you can get an idea of which boards provide the best performance for your dollar by the scatter chart below.

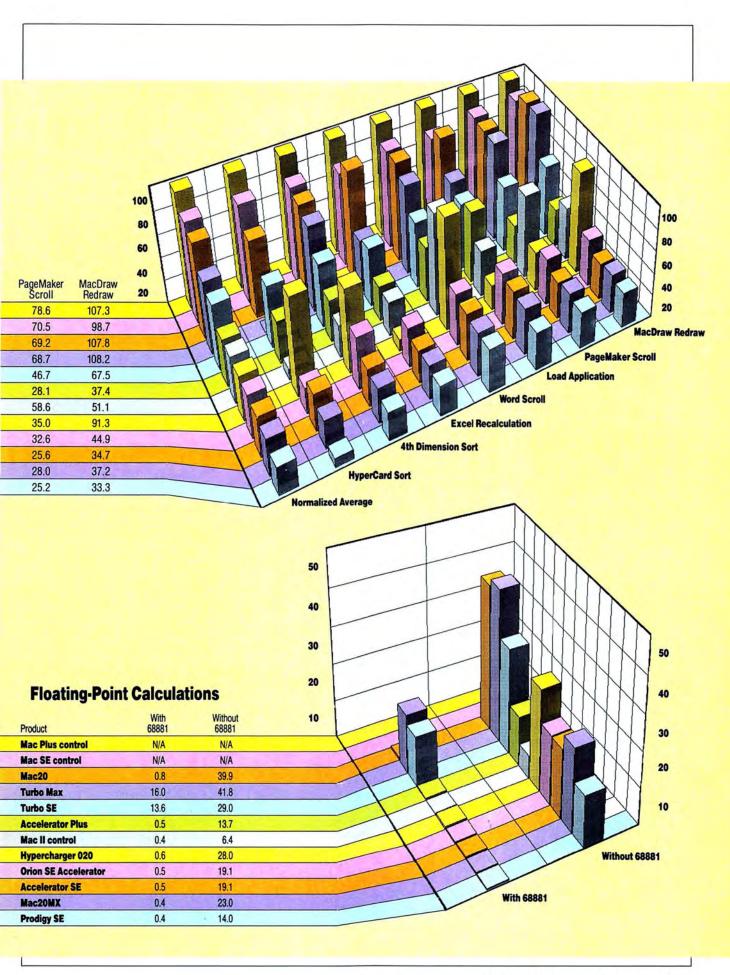
The Price/Performance ratio is the result of plotting the normalized performance time versus the base price of the board without a 68881 coprocessor (on all but one board the coprocessor is an option).

The diagonal line on the chart is the mathematical average of all the boards tested. Points plotted below and to the right of the average line are a better value.

Although the Prodigy SE is twice as expensive as the Turbo Max, its performance is almost three times greater.



	Scatter Chart Product Code
	1
	2
	3
	4
	5
	6
	7
	8
	9
	10
H	11
	12



Pedal to the Metal

MacDraw 1.9.5 document. We loaded the test document and displayed it on the screen. We then selected NEW from the File menu to cover it with a new, blank screen. The time measured started on mouse-up after reselecting the original document window. The time stopped when the original document window outlined itself again.

PageMaker Scroll This test was designed to measure the speed with which accelerators handled mixed graphics and text. For this we chose a 309K PageMaker (version 2.0) document consisting of four tabloid pages. The time interval measured started on mouse-down on the right-facing scroll bar arrow, and stopped at the end of horizontal scroll with a vertical line appearing at the right window margin.

4th Dimension Sort This test was designed to examine a large data base

sort. We chose a 2,000-card name-and-address file created in 4th Dimension. It consisted of 14 fields. Prior to the test, the records were initially sorted by company name. The time measured was for sorting by phone number. The time started at mouse-up with PHONE NUMBER selected; and stopped when the end-oftest card appeared in the window.

HyperCard Sort We used the same 2,000-card file that was used in the 4th Dimension sort test to time a HyperCard sort. The file occupied 636 kilobytes of memory. As before, we started by sorting the cards by company name. Then the time started at mouse-up with PHONE NUMBER selected. The time stopped when the sort icon turned into the hand icon.

Floating Point We measured the amount of time to calculate 10,000 each of add, subtract, multiply and divide problems.

Server Test We tested for compatibility and speed of three basic configurations: Configuration 1 used an accelerated file server and a normal Macintosh; Configuration 2 used an accelerated Macintosh and a normal file server; and Configuration 3 was a control using a normal Macintosh and a normal file server. No significant changes were detected in the file server's throughput and there were no compatibility problems with any software.

Sound Test We tested sound quality using SoundCap 4.4 with several different digitized sound samples, including human voice and musical instruments. All 68020-based accelerators, with the exception of the Novy MAC20MX (normal with Sound Patch turned on in Control Panel) suffered extreme degradation of sound. All 68000-based accelerators showed very slight degradation.

FACT SHEETS

MAC₂₀



Novy Systems

69 Ravenwood Court Ormond Beach, FL 32074 (904) 427-2358

Price as Tested: \$595; \$799 with 68881 math coprocessor.

Requires: Mac 512KE, Mac Plus or Mac SE.

Pluses:

 Software has Sound Driver patch that maintains sound quality. Only Novy boards provided this feature.

Minuses:

- Can't add memory to the daughterboard; the only memory available is that on the motherboard.
- SCSI INIT program is difficult to use (partially because of documentation).
- Documentation is unclear and incomplete.

Novy Systems' MAC20.

MAC20MX



Novy Systems' MAC20X.

Novy Systems 69 Ravenwood Court Ormond Beach, FL 32074 (904) 427-2358

Price as Tested: \$995, 16-MHz 68020, 1-megabyte SIMMs; \$1285, with 68881 math coprocessor.

Requires: Mac 512KE, Mac Plus or Mac SE.

Pluses:

- Daughterboard RAM is userupgradeable from 1 to 4 megabytes with standard SIMM modules.
- Compatible with faster memory and CPUs.
- Has a true 68000 emulation

mode (via the programmer's switch on the side of the Mac) to run programs not compatible on the 68020.

- Software allows greater flexibility in configuring board.
 - RAMdisk software provided.
- Software has Sound Driver patch that maintains sound quality.
 Only Novy boards provide this feature.

Minuses:

- SCSI INIT program is difficult to use (partially because of documentation).
- Documentation is unclear and incomplete.

ORION SE



MacPEAK Systems' ORION SE.

MacPEAK Systems 1201 Spyglass Austin, TX 78746

(800) 225-7509; (512) 327-3211 in Texas.

Price as Tested: \$895, 1-megabyte, 100ns 256K SIMMs; \$295, 68881 math coprocessor.

Requires: Mac SE.

Pluses:

- Daughterboard RAM can be upgraded to 8 megabytes, and can use fast RAM.
- Apple ROMs can be copied into fast RAM.
 - Daughterboard RAM is user-

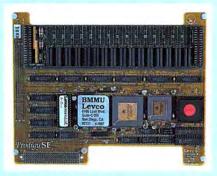
upgradeable with standard SIMM modules.

- Has PMMU option (Paged Memory Management Unit, a coprocessor that will allow the use of A/UX).
- Two expansion connectors, one for a large screen, the other is an optional 96-pin connector.

Minuses:

- Documentation is too brief and didn't explain all features of the product.
- Installation procedure was not very clear because of poor installation manual.

Prodigy SE



Levco Corp.'s Prodigy SE.

San Diego Levco Corporation 6160 Lusk Blvd., Suite C-100 San Diego, CA 92121 (619) 457-2011 SuperMac Technology 295 North Bernardo Avenue Mountain View, CA 94043 (415) 964-8884

Price as Tested: \$1499 includes 68881 coprocessor, 1-megabyte custom RAM module.

Requires: Mac SE.

Pluses:

- Has a true 68000 emulation mode (via the programmer's switch on the side of the Mac) to run programs not compatible on the 68020.
- Configuration software is accessible from a cdev in the Macintosh Control Panel.
- The RAMdisk supplied with the Prodigy is recoverable, which means that if you have a System error or

power outage, you can return to the Finder with your RAMdisk intact.

- The motherboard memory is accessible as a RAMdisk.
- Installation is very straightforward; no problems were encountered.
- Has PMMU option (Paged Memory Management Unit, a coprocessor that will allow the use of A/UX).

Minuses:

- The daughterboard memory is not user-upgradeable. Must be done by a dealer.
- The daughterboard memory uses custom memory modules, not standard SIMM modules like those in the Mac Plus or SE.
- Although the RAM on the motherboard is not contiguous with the RAM on the daughterboard, it is available to the user as a RAMdisk.

HyperCharger 020



GCC's HyperCharger 020.

General Computer Corporation 580 Winter Street Waltham, MA 02154 (617) 890-0880 for information; (800) 634-9737 for literature only;

(800) 854-9737 for literature only in Illinois

Price as Tested: \$1299, 1-megabyte RAM, 100ns 256K SIMMS; \$1699 with 12-MHz 68881 coprocessor.

Requires: Mac SE.

Pluses:

• All RAM on daughterboard and motherboard is contiguous and accessible from the *Finder* (up to 4 megabytes). This well thought-out feature is found only on this board.

- Daughterboard RAM is userupgradeable from 1 to 4 megabytes with standard SIMM modules.
- Two expansion connectors are provided. One is a 96-pin, the other is specifically for a large-screen monitor.

Installation is very straightforward; no problems were encountered.

Configuration software is accessible from a cdev in the Macintosh Control Panel.

Minuses:

• The 68881 coprocessor is only the relatively slow 12-MHz instead the 16-MHz version which would take fuller advantage of the 68020.

Pedal to the Metal

Radius Accelerator (for Mac Plus)



Radius Accelerator (for the Mac Plus).

Radius

404 East Plumeria Drive San Jose, CA 95134

(408) 434-1010

Price as Tested: \$995; \$1390 with 68881 coprocessor.

Requires: Mac Plus.

Pluses:

 High-speed static RAM cache allows Macintosh RAM to emulate expensive, high speed RAM without actually using it. MacWrite 4.5 patch done automatically in firmware.

Minuses:

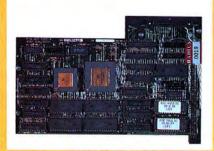
• Very difficult installation, can't completely close case unless modifications are made to chassis (remove a screw, cut out plastic).

• Can't disable the 68020 or the

68881 from software.

• Can't add memory to the daughterboard; the only memory available is that on the motherboard.

Radius Accelerator (for Mac SE)



Radius Accelerator (for the Mac SE).

Radius

404 East Plumeria Drive San Jose, CA 95134 (408) 434-1010

Price as Tested: \$995; \$1390 with 68881 coprocessor.

Requires: Mac SE.

Pluses:

 High-speed static RAM cache allows Macintosh RAM to emulate expensive, high speed RAM without actually using it.

 Very easy to use, with no software to install. All configuration software is in firmware, and is accessible by holding down the mouse button on boot.

- Can disable the 68020 from software for 68000 emulation.
- Installation is very straightforward.
- MacWrite 4.5 patch done automatically in firmware.

Minuses:

- Can't disable the 68881 from software.
- Can't add memory to the daughterboard; the only memory available is that on the motherboard.

MacMemory
2480 North First Street
San Jose, CA 95131
(800) 862-2636;
(408) 922-0140 in California.

Price as Tested: \$599, no memory; \$399 for 68881 coprocessor.

Requires: Mac SE.

Pluses:

• 64-pin large-screen adapter is provided.

• Daughterboard RAM is userupgradeable from 1 to 2.5 or 4 megabytes with standard SIMM modules.

• Two 64K video SIMMs are provided for the Macintosh video. They replace two of the four 256K SIMMs on the motherboard. All the motherboard SIMMs are then moved to the daughterboard.

 Can change the number of waitstates by using high-speed RAM.

MacMemory's Turbo SE.

TurboMax

Turbo SE



MacMemory's TurboMax.

MacMemory

2480 North First Street San Jose, CA 95131 (800) 862-2636; (408) 922-0140 in California.

Price as Tested: \$1149, 1.5 megabytes RAM, 120ns 256K SIMMs; \$399, 68881 math coprocessor.

Requires: Mac 512KE or Mac Plus.

Pluses:

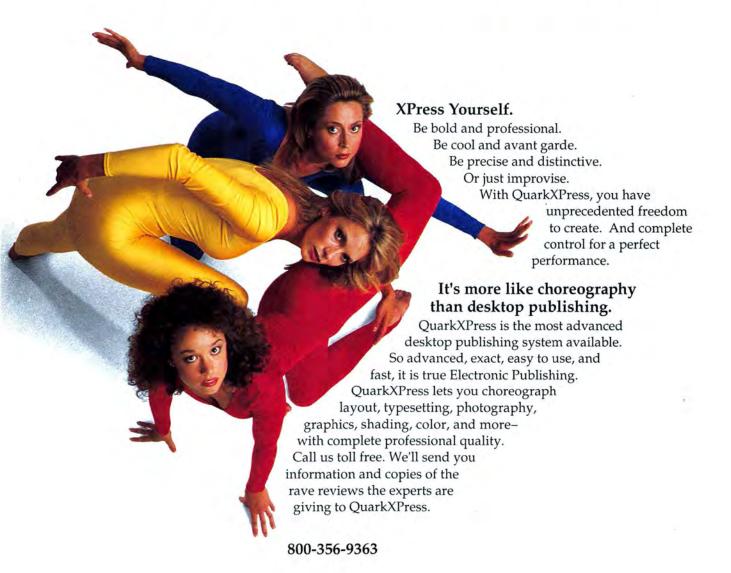
 Daughterboard RAM is userupgradeable from 1.5 to 4 megabytes using standard SIMM modules.

- Fast SCSI port included.
- Has a single built-in expansion connector for a large-screen monitor.
- Recoverable RAMdisk and print spooler software included.

Minuses:

- Difficult installation required remounting internal disk drive as well as soldering wires.
- SCSI driver does not work with a wide range of hard drives; be sure to check if yours is one of them before purchase.

Creative Excellence.



Quality and precision make the difference.



Quark, Inc. • 300 South Jackson St., Suite 100 • Denver, Colorado 80209
All layout and typesetting on this page was produced using QuarkXPress.

Please circle 85 on reader service card.



126 M A C U S E R M A R C H 1 9 8 8

All Systems Go

System Update 5.0

takes off to explore new

applications, to seek

out new networks, to

boldly go where no Mac

has gone before.

well, we hit the nub of the problem right away. Part of the design of the Macintosh is that there is no "operating system" as such, as there is on other computers. Instead, there is a triumvirate made up of the ROM, the System file, and the Finder. Many people think of the Finder as the Macintosh operating system, but it's actually just another program whose only really special capability (at least until now) is that other programs quit to it.

In the early days, this triumvirate was fairly transparent. All the user needed was a System disk, with the System file and the Finder on it to start up the Macintosh, and most application programs came on System

disks. More adventuresome users knew that the *System* file was the repository of fonts and desk accessories, and could customize their *Systems*. But to most people, the operating system was still just the *Finder*.

As time went on, Apple needed to fix things and change things, and this was accomplished with new System files, new Finders and new printer drivers. These would be sent to dealers, who would copy them onto customers' disks, and to developers, who would include them on their product disks. The rate of change accelerated, too. System 2.0 and Finder 1.1g were replaced by System 3.0 and Finder 4.0, which were quickly replaced by System 3.1 and Finder 4.1. which were even more quickly replaced by System 3.2 and Finder 4.1. New printer drivers were needed and created for the LaserWriter and AppleTalk ImageWriter.

When the Macintosh SE, Macintosh II and AppleShare came along, things began to get even more complicated. There were now four versions of ROM (64K, 128K, 256K SE and 256K II) to deal with. Some versions of the System file worked best with some ROMs, others with others, and whether or not AppleShare was used made a difference. Version numbers began to blur. There was a

System 4.1 and a Finder 4.1, but they didn't go together. Many Macintosh owners couldn't figure out what was happening, and finding out System versions was not always an easy task. The days of simply copying a System and Finder to update a System disk were gone.

With the latest version of System software, Apple has tried to simplify things. It has gathered all the pieces together onto four disks, documented in three manuals, and put the whole thing in a box that sells for \$49. It is called the Apple Macintosh System Software Update, and has one number, version 5.0 (but each component has its own version number; see the sidebar). The box is clearly marked "Required equipment: Macintosh Plus, Macintosh SE, or Macintosh II," since the new software requires at least 128K ROMs and one megabyte of memory. Putting this software update in a box with an order number and price encourages dealers to carry the update and get it to their customers, as well as simplifying life for Macintosh owners.

MULTIFINDER

The big change with this version of system software is the inclusion of the long-awaited *MultiFinder* (codenamed *Juggler*). *MultiFinder* is an enhancement to the Macintosh "op-

BY ROBERT R. WIGGINS

All Systems Go

erating system" to allow multiple applications to run concurrently. *MultiFinder* consists of more than just the basic files which go into the System folder. It also requires a wideranging set of internal changes, im-

plemented in changes to the *System* file and the *Finder*. It is the interrelationship of the *MultiFinder* files, *System* file, and *Finder* which pushed Apple toward the new method of distribution.

Despite its name, MultiFinder actually has very little to do with the Finder, and can be used with some of the third-party Finder substitutes on the market, such as PowerStation. But since most Macintosh owners

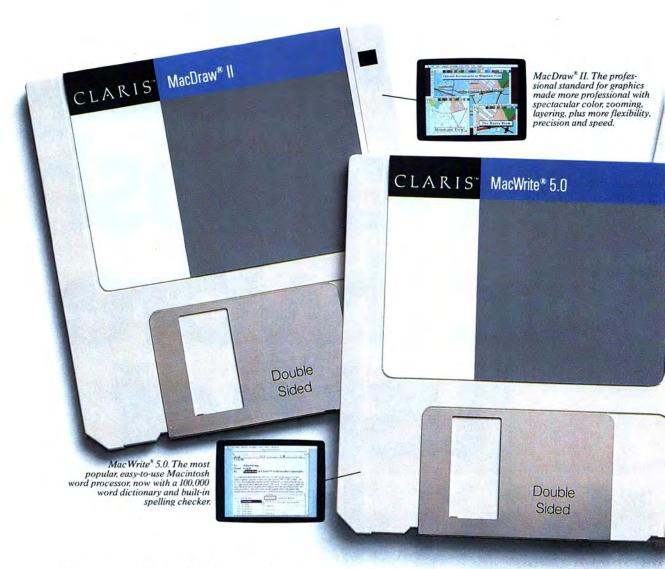
DISK CONTENTS

(Four 800K disks)

File/Folder Name	Ver	Description	File/Folder Name	Ver	Description
System Tools 1			Utilities 1		
System Folder		Folder	Apple HD SC Setup	1.5	Application program
Clipboard File	4.2	System file	Disk First Aid	1.3	Application program
Color	3.2	Control Panel cdev file	HDBackup	1.0	Application program
DA Handler	1.0	MultiFinder file	System Folder		Folder
Easy Access	1.0	INIT file	Clipboard File	4.2	System file
Finder	6.0	Finder	Color	3.2	Control Panel cdev file
Key Layout	2.2		DA Handler		
	3.2	Keycaps DA file Control Panel cdev file		1.0	MultiFinder file
Keyboard			Easy Access	1.0	INIT file
General	3.2	Control Panel cdev file	Finder	6.0	Finder
Monitors	3.2	Control Panel cdev file	General	3.2	Control Panel cdev file
\$15.c.	122	(Mac II only)	Key Layout	2.2	Keycaps DA file
Mouse	3.2	Control Panel cdev file	Keyboard	3.2	Control Panel cdev file
MultiFinder	1.0	MultiFinder	Monitors	3.2	Control Panel cdev file
Scrapbook File	2.3	System file			(Mac II only)
Sound	3.2	Control Panel cdev file	Mouse	3.2	Control Panel cdev file
		(Mac II only)	MultiFinder	1.0	MultiFinder
Startup Device	3.2	Control Panel cdev file	Scrapbook File	2.3	System file
		(Mac SE & II only)	Sound	3.2	Control Panel cdev file
System	4.2	System	Count	0.2	(Mac II only)
TeachText	1.1	Application program	Startup Device	3.2	Control Panel cdev file
Update Folder		Folder	Startup Device	3.2	e - a su a su a canales e a a a su a su a su a su a su a su a
Read Me	_		0.4	4.0	(Mac SE & II only)
0.00000	_	TeachText document	System	4.2	System
Utilities Folder	7	Folder	TeachText	1,1	Application program
Apple HD SC Setup	1.5	Application program	Update Folder	-	Folder
Installer	2.5	Application program	Read Me	-	TeachText document
Installer Scripts	_	Folder			
Macintosh II Script	4.2	Installer document	Utilities 2		
Macintosh Plus Script	4.2	Installer document	Apple File Exchange Folder	_	Folder
Macintosh SE Script	4.2	Installer document	Apple File Exchange	1.0.1	Application program
			DCA-RFT/MacWrite	1.0	Apple File Exchange docume
System Tools 2			Font/DA Mover Folder	-	Folder
Installer	2.5	Application program	Desk Accessories		Font/DA Mover document
System Folder	2.0	Folder	Fonts	100	Font/DA Mover document
AppleTalk ImageWriter	2.6	Printer driver	Font/DA Mover	3.6	
Background Printing	1.0		PONUDA MOVER	3.0	Application program
		Installer document			
Backgrounder	1.0	System document			
Acres and	7.2	(print spooler)			
Clipboard File	4.2	System file	DOCUMENTATION		
Color	3.2	Control Panel cdev file			
DA Handler	1.0	MultiFinder file	Macintosh System Software Update User's Guide		
Easy Access	1.0	INIT file	Description of New Features		
Finder	6.0	Finder			
General	3.2	Control Panel cdev file	Updating Your Startup Disk		
ImageWriter	2.6	Printer driver	An Historical Perspective		
Key Layout	2.2	Keycaps DA file			
Keyboard	3.2	Control Panel cdev file	Macintosh Utilities User's Guide		
Laser Prep	5.0		Apple HD SC Setup		
LaserWriter		LaserWriter prolog file	Font/DA Mover		
	5.0	Printer driver	Apple File Exchange		
PrintMonitor	1.0	Application program	Apple File Exchange: Advanced Features		
Scrapbook File	2.3	System file	Apple File Exchange: Advanced F	eatures	
Sound	3.2	Control Panel cdev file			
		(Mac II only)	MultiFinder User's Guide		
Spool Folder		Folder	Before You Begin		
Startup Device	3.2	Control Panel cdev file	A Sample Session		
The state of the s		(Mac SE & II only)	Background Printing		
	4.2	System	Some Technical Points About Mer	mony	
System					
System TeachText				inor y	
System TeachText Update Folder	1.1	Application program Application program	The Set Startup Command Tips for Working with MultiFinder		

The best-selling Macintosh software just got the ultimate upgrade.

ts own c



Presenting Claris[™]1.0. We used to be a part of Apple[®] Computer.

Now we're on our own. New stationery. New phones. New offices. The whole bit.

And here we are, while the halls are still filled with the scent of new carpet, introducing more powerful versions of the most popular Macintosh* software of all time.

MacDraw, the desktop publishing standard for graphics, has been completely overhauled as MacDraw II. It's faster, more flexible and precise. With new features like zooming and layering. And now on the Macintosh II, your basic breathtaking color.

MacWrite, the most popular Macintosh word processor of all time, now includes a built-in spelling checker, a 100,000 word dictionary and an abundance of new optional keyboard commands.

MacPaint, the illustration program that's inspired nearly as many imitators as the Mona Lisa, now exhibits a larger work

ompany.



area. Tear-off menus. Zoom. Templates. Auto-scrolling. And nine snapshot windows.

All designed to make artwork more art and less work.

Finally, MacProject II, a full-power, professional-level project manager that generates tables, PERT charts, Gantt charts, histograms and applause in presentations. If you thought it was good in black & white, wait until you see it in color.

For the whole scoop, dial our upgrade

hotline: (800) 544-8554. But here's where it gets really exciting.

Coming soon to a Macintosh near you: new and innovative Claris applications that make the most of the Mac's graphic, intuitive approach to computing

intuitive approach to computing.

Case-in-point: SmartForms. The quick and inexpensive way to design and manage professional-looking business forms. So there you have it.

Claris has arrived. Stay tuned.

All Systems Go

think that the *Finder* is the Mac's operating system, the name "Multi-Finder" conveys the essence of what

the product does.

MultiFinder builds on the base of Switcher's "context switching" and adds capabilities for more program concurrency. Application programs which are "MultiFinder-aware" can continue to use the Mac's processor when they are in the "background" and the user is using another application program or desk accessory. This means that time-consuming tasks such as disk back-ups, file downloading, spreadsheet recalculation and data base sorting can be done while you work in a word processor or drawing program.

MultiFinder comes with some support files, including DA Handler, which creates a special Multi-Finder "layer" for desk accessories to

inhabit, which allows (or forces, depending on your perspective) all desk accessories to be "brought to the front" at the same time. Multi-Finder also includes a built-in Laser-Writer printing spooler called Back-Grounder which has a companion application program called Print-Monitor to track the progress of printing and control the scheduling of print jobs. PrintMonitor includes a "print at specific time" feature, a nice touch.

MultiFinder has gotten mixed reactions from program developers. The capabilities are appreciated, but the extra effort required to take advantage of them is not. Also, in order to ensure future compatibility, Apple has had to declare some sections of the operating system "off limits," and developers must wait until the "final" incarnation of MultiFinder

to find out how to perform some of the tricks they have used in the past.

MultiFinder is the bridge between the old Macintosh operating system and a true multitasking operating system. It is an excellent effort, but a mixed blessing. During the transitional period, there will be compatibility problems and an increased number of ways for an application to fail, since Macintosh applications have never had to be careful not to step on other applications' toes before.

SYSTEM AND FINDER

The core of System Tools 5.0, as the update is also called, is System version 4.2 and Finder version 6.0. The major change in these versions is support for MultiFinder. There are also many minor changes and bug fixes, and improved color support for the Macintosh II.

In the Finder, the "About the Finder" choice under the Apple menu now displays the current System version as well as the Finder version, and shows the memory usage similar to the way Switcher handles memory display, which is useful when using MultiFinder. On a Macintosh II, there is also a new Color menu used to set icon colors. The SET STARTUP choice has been modified as well, and allows you to specify whether to start up using Multi-Finder or not. Setting startup without MultiFinder works as SET STAR-TUP did in the past, making the selected application the startup application. Setting startup with MultiFinder uses the currently running application(s). A minor enhancement to the Finder allows files to be copied from one folder to another on the same disk by holding down the Option key when selecting and dragging the icon.

The changes in the *System* file are invisible to the user, but are there nonetheless. One thing you may notice is how much larger this *System* file is than earlier versions. One reason for this is that this *System* file provides many of the functions in the SE and Mac II ROMs to Macintosh Plus users, and there are resources required for all three computers. By using the *Installer*

The Macintosh™ Finder

Finder: 6.0
System: 4.2

Larry, John, Steve, and Bruce
©1987 Apple Computer, Inc.

Total Memory: 4,096K

Smartcom II
250K

MacFullPaint
488K

MacWrite
183K

Finder

Finder

The Macintosh™ Finder

Larry, John, Steve, and Bruce
©1987 Apple Computer, Inc.

1,646K

The "About the Finder" choice under the Apple menu now gives memory information about the applications that are open.

Locked
AppleLink
Kind: application
Size: 130,962 bytes, 128K on disk

Where: Opus XV, MacBottom SCSI

Created: Mon, Jun 2, 1986 6:35 PM
Modified: Thu, Sep 17, 1987 1:52 AM

AppleLink™ Communications Interface v4.0
©1984..1986 Central Coast Software.

Suggested Memory Size (K): 168

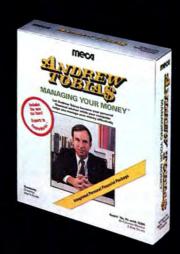
Application Memory Size (K): 168

The "Get Info" choice under the Finder's file menu allows you to set the desired memory size for each application program you want to use under MultiFinder.

Andrew Tobias' Managing Your Money ...

the number one selling personal financial software for the IBM PC.

Now available for the Mac!





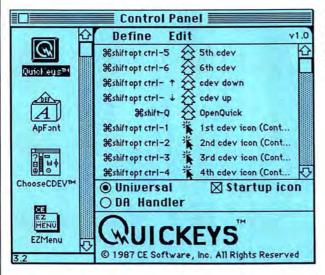
Software that makes your personal computer worth having.

1987 • 355 RIVERSIDE AVENUE • WESTPORT, CT 06880

Requirements: minimum 512K memory and two disk drives (1 drive must be at least an 800K).

Please circle 41 on reader service card.

All Systems Go



The icons down the left side of the Control Panel represent the available functions. The selected function is highlighted.

program described later on, the size of the System can be controlled somewhat.

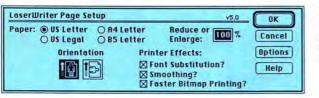
PRINTER DRIVERS

System Tools 5.0 includes new drivers for the ImageWriter, the Apple-Talk ImageWriter and the Laser-Writer. Most of the changes from the immediately preceding versions are minor and transparent to the user, but if you are upgrading from older versions you may be pleasantly surprised by the changes that have crept come with System Tools 5.0 are for in over the last few updates.

MODULAR CONTROL PANEL

If you are upgrading from Systems prior to 4.0, you will discover the Control Panel has changed considerably. The new Control Panel is modular, and uses "cdev" files (for Control DEVice) that allow you to customize your control panel. Several third-party developers have released software that makes use of this option to be managed from the control panel.

Many of the cdev modules that the Macintosh II, including a new



The new LaserWriter driver allows more of the power of PostScript to be tapped with its additional print options.

LaserWriter Options OK Cancel Flip Horizontal ☐ Flip Vertical ☐ Invert Image Precision Bitmap Alignment (4% reduction) ☐ Larger Print Area (Fewer Downloadable Fonts)

In the LaserWriter driver, for example, the Page Setup dialog has been enhanced to allow options such as flipping the page image horizontally or vertically, inverting the image, using precision bitmap alignment and using a larger print area. Most people will never need these options, but the capabilities are there when needed.

one called "Color" that allows you to change the highlight color, the color used as a background when text or an icon is selected. The General cdev also adds the ability to set the desktop pattern color on a Macintosh II.

ODDS AND ENDS

Chooser has been enhanced to al-

low devices to be selected in different AppleTalk zones, as well as to turn background printing under Multi-Finder on and off.

The Find File desk accessory may also be new to you, and is used to locate files which can be moved to the desktop and put away later with the Finder's Put Away menu choice. Easy Access is a file which allows you to turn on two new features, "sticky keys" and "mouse keys," which are designed to help people who have difficulty typing or using the mouse. (See the article "Open Door Policy" in the February '87 MacUser.)

INSTALLER

One problem in the System update process discovered early on was that users who had customized their System files with fonts and desk accessories were reluctant to move to a new System and re-customize. As a result, Apple developed the Installer, a program that updates older System disks.

The Installer works with scripts which tell it what to do, and System Tools 5.0 comes with three scripts, one each for the Macintosh Plus, SE and II. Based on the script, the Installer gets the necessary resources from the System Tools disk and installs them into the System folder being updated. In this way, existing fonts and desk accessories are left intact in the System file being updated.

The Installer can also be used to update your printing resources, and using the Installer on the System Tools 2 disk will present a choice of printers to update.

UTILITIES

System Tools 5.0 comes with several utility programs. Apple HD SC Setup is for users of Apple SCSI hard disks. Font/DA Mover is, as its name states, for moving fonts and desk accessories around and can be used to customize your System. TeachText is a special-purpose word processor used to create files which cannot be modified, such as the "Read Me" files which come on the System Tools disks. HD Backup is an adequate hard disk backup program, though many users prefer the third-party alternatives such as SuperMac's Disk-

Would y 1986, there was one ual-page display for the buy a b lacintosh™ computer: urs. The choice was sime. Now, it seems, everyody and his dog makes ne. So it gets confusing reen w

ut you don't have to buy olind." Our MegaScreen ves you advantages we in demonstrate here.

hen you're shopping.

make matters

orse, there are

ou can sit down

nd compare big

reen displays.

ery few places

YSIWYW (What You See Is /hat You Want).™

ther big screens give you a comessed display, showing 82 or even 4 dots per inch (d.p.i.). That means)-point type looks like 7-point type. s just too small to read comfort-

ably. Mega-

Screen lets

you select

screen res-

olutions.

For exam-

here is a big difference between big screens.

75 x 75

82 x 82 Output

ou want your big screen to show accuely what will be printed, you need our

ple, when ou work with graphics, you'll want ccurate proportions. Our 75 x 75 p.i. resolution displays sizes and apes perfectly. When you work

ith a big readsheet, lect maxnum resoluon: 75 x 87 p.i. (1024 x 00) and get en more ata on the reen. You ontrol it all ith a menu.

nere are one nd two-page legaScreens

for the Macintosh SE and Macintosh II. Interface cards are dealer-installed typically in less than 10 minutes without voiding the Apple® warranty. MegaScreens are also available for the Macintosh Plus.

We remember the future.

With an SE, we know you're giving up your slot by adding an interface card, so we've provided options. You can choose a card with a 68881 math co-processor, or you can select our modular card, which provides its own 'slot' for our MegaModules,

such as a video



output (NTSC, PAL, and standard Macintosh signal).

Unlike some big screens, we even give you options for your original Macintosh screen: it can work in tandem with your MegaScreen to extend your work space. Or, if that's not useful to you, we have something that will be: it's called Mega-Talk. It's included in our Video System and lets you communicate with one or more users through your AppleTalk® network. Even while running other applications.

Someday, other big screens may give you the control, the options



MegaScreen 2001 lets you display 300% more data than the Macin-

and the additional communications features MegaScreen Video Systems offer.

> But if you need the increased productivity today, you can clearly see there's only one choice.



We Have Seen the Future.

20954 Osborne St., Canoga Park, CA 91304 Call us at (818) 407-0571 for your dealer. Telex: 650-0349 MCIMAIL

Please circle 145 on reader service card.



creens shown are unretouched photographs of running displays. This ad and the desktop publishing example were created with Quark XPress." The CAD document was created with Versacad." MegaScreen, aTalk and WYSIWYW (What You See Is What You Want) are Trademarks of MegaGraphics, Inc. Apple and AppleTalk are Registered Trademarks and Macintosh is a Trademark of Apple Computer, Inc. Versacad is Registered Trademark of Versacad Corp. Quark and XPress are Trademarks of Quark Incorporated. MegaGraphics is an Authorized Value Added Reseller of Apple Computer Inc. ©1987, MegaGraphics, Inc.

All Systems Go

Fit and PCPC's HFS Backup. Disk First Aid is an emergency disk repair program which can be used in a last attempt to recover data from a dam-

ne problem in the System update process discovered early on was that users who had customized their System files with fonts and desk accessories were reluctant to move to a new System and recustomize.

aged disk before reinitializing. Apple File Exchange is a translator for Apple II ProDOS and MS-DOS files, and is a skeleton on which additional translators can be provided by thirdparty companies.

DOCUMENTATION

System Tools Update 5.0 comes with three manuals: a brief 29-page User's Guide which describes the features of the update and how to use the Installer program; a 35-page MultiFinder User's Guide which covers using MultiFinder, using the background printing feature and offers some tips; and a 108-page Utilities User's Guide which is the manual for Apple HD SC Setup, Font/DA Mover, TeachText, Find File, HD Backup, Disk First Aid and Apple File

As with other end-user Macintosh documentation, the coverage is broad and not very deep, but the manuals serve to introduce the major features and usage of the various components. For example, the MultiFinder manual doesn't mention the problem that many users discovered downloading files, so they must learn elsewhere that files need to be downloaded to closed folders.

SUPPORT

Apple is not known for their support, but given the importance of system software and the strategic importance to Apple of MultiFinder, you can be assured that Apple will keep track of any problems and fix them. Just don't expect any personal or telephone support, except what you can get from your dealer, if any.

THE BOTTOM LINE

System Tools 5.0 is a good value. The enhancements, while mostly minor, are almost all useful. Multi-Finder, while offering new ways to get the most out of your Mac, is still new and potentially unstable, depending on what applications are used with it. Overall, however, this is the most fully tested and stable version of Macintosh System software in some time. If you have a Macintosh Plus, SE or II, you should upgrade and take advantage of the new features and improvements. Just be careful when experimenting with MultiFinder, and, as always, save and back up frequently.

ROBERT WIGGINS IS MACUSER'S CONTRIBUT-ING BUSINESS EDITOR AND THE EDITOR AND PUBLISHER OF THE MACINTOSH BUSINESS LETTER, AND HAS SEVERAL TIMES MANAGED TO BEAT THE SYSTEM.

MACUSER RATING System Tools 5.0 with MultiFinder ****

. .

Follows Mac Interface Printed Documentation On-Screen Help Performance Support Consumer Value

Comments: The first multitasking system for the Mac, with other minor improvements. Best Features: The LaserWriter spooler that is part of MultiFinder and the Color Control Panel cdev for the Macintosh II. Worst Features: The large memory requirements and the tendency for some applications to malfunction under MultiFinder. List Price: \$49. Published by Apple Computer, 20525 Mariani Avenue, Cupertino, CA 95014. (408) 996-1010. Macintosh Plus and at least one megabyte of memory required. Not copy protected.

PixelPaint is available at these locations:

CALIFORNIA: ComputerCraft: Monterey, 408-373-2772; Mountain View, 415-964-7064; Palo Alto, 415-326-9689; San Francisco, 415-433-4690; San Jose, 408-252-3900; San Rafael, 415-454-3600; Walnut Creek, 415-934-9181 Computer Plus: Sunnyvale, 408-735-1199 Computer Selection: San Francisco, 415-543-9013 Computerware: Palo Alto, 415-323-7559, 800-235-1155, 800-323-1133 in CA Egghead Discount Software: Anaheim, 714-995-8635; Brea, 714-990-9373; Campbell, 408-371-8212; Carlsbad, 619-434-7060; Cerritos, 213-924-8117; Chalsworth, 213-823-2727; Citrus Heights, 916-721-6550; Costa Mesa, 714-646-5312; Cupertino, 408-257-0892; Fremont, 415-792-1361; Huntington Beach, 714-848-8093; La Mesa, 619-462-5747; Lawndale, 213-214-1416; Los Angeles, 213-477-1577; Los Angeles, 213-823-2727; Los Angeles, 213-387-1470; Los Angeles, 213-937-0401; Los Angeles, 213-627-9560; Los Angeles, 213-473-8115; Manhattan Beach, 213-545-6773; Menlo Park, 415-322-2871; Montclair, 714-624-3531; North Hollywood, 818-766-1767; Oakland, 415-834-1403; Orange, 714-639-7966; Pasadena, 818-351-4273; Pasadena, 818-793-2084; Pleasant Hill, 415-671-2702; Rowland Heights, 818-913-8555; Sacramento, 916-922-3419; San Diego, 619-277-4020; San Francisco, 415-956-4488; San Francisco, 415-921-5643; San Jose, 408-281-4977; San Rafael, 415-258-0100; San Ramon, 415-837-3400; Santa Ana, 714-556-6960; Santa Monica, 213-829-7955; Sherman Oaks, 818-783-6214; Sunnyvale, 408-735-9722; Tarzana, 818-881-7870; Thousand Oaks, 805-495-7360; Torrance, 213-375-1174 Hellman's: San Rafael, 415-453-7924 The Mac Garden: San Rafael, 415-457-1952 MacOrchard: Berkeley, 800-445-7633, 800-852-4666 in CA. DISTRICT OF COLUMBIA: Eggheed Discount Software: Washington DC, 202-223-8520; Washington DC, 202-223-8524. FLORIDA: Egghead Discount Software: Tampa, 813-874-3466; St. Petersburg, 813-327-5039. GEORGIA: Deak Top Software: Norcross, 404-446-2295. ILLINOIS: Egghead Discount Software: Chicago, 312-929-8400; Chicago, 312-444-9869; Chicago, 312-443-0890; Darien, 312-910-0291; Lansing, 312-418-0123; Lombard, 312-495-4968; Melrose Park, 312-343-1551; Naperville, 312-717-0808; Niles, 312-967-0690; Norridge, 312-453-4010; Oak Lawn, 312-598-5703; Orland Park, 312-403-2722; Schaumburg, 312-490-8720. MARYLAND: Egghead Discount Software: Baltimore, 301-659-5758; Bethesda, 301-654-8611; Pikesville, 301-653-9727; Rockville, 301-231-6002 MacCorner: Gaithersburg, 301-948-1538. MICHIGAN: Egghead Discount Software: Farmington Hills, 313-489-8550; Livonia, 313-471-3800; Southfield, 313-559-5800. MIN-NESOTA: Egghead Discount Software: Maplewood, 612-770-7168; Minneapolis, 612-339-9414; Minnelonka, 612-591-0713; Roseville, 612-631-3795. MISSOURI: Egghead Discount Software: Clayton, 314-863-9803. NEVADA: ComputerCraft: Reno, 702-826-8080. NEW HAMPSHIRE: MacConnection: Marlow, 800-622-5472. NEW JERSEY: Egghead Discount Software: Cherry Hill, 609-424-8442; Deptford, 609-848-7711 MacWarehouse: Lakewood, 201-367-0440. OREGON: Egghead Discount Software: Beaverton, 503-626-7331; Portland, 503-248-1720. PENNSYLVANIA: Egghead Discount Software: Fairless Hill, 215-946-5900; Springfield, 215-543-2260.TEXAS: Austin, 512-443-4183; Ausfin, 512-458-4236; Dallas, 214-638-1070; Dallas, 214-960-0800; Fort Worth, 817-274-6001; Fort Worth, 817-732-1771; Houston, 713-481-5600; Houston, 713-840-9762; Houston, 713-650-3841; Houston, 713-583-2032; Houston, 713-827-1744; Houston, 713-879-7813; Houston, 713-527-8088; San Antonio, 512-826-6046; San Antonio, 512-680-1980 ComputerTime: Austin, 512-343-8255 Jordan Electronica: San Antonio, 512-341-5008 The Mac MarketPlace: Bedford, 817-540-3664 Williams Computer Centers: Spring, 713-367-1600. VIRGINIA: Egghead Discount Software: Alexandria, 703-931-2250; Fairfax, 703-352-4114; Falls Church, 703-538-2377. WASHINGTON: Egghead Discount Software: Bellevue, 206-644-4545; Lynnwood, 206-672-9397; Seattle, 206-623-4851; Tukwila, 206-575-0445.



SuperMac Software, A Division of Scientific Micro Systems 295 N. Bernardo, Mountain View, CA 94043



What would you say to a demo of PixelPaint?

II. The demo begins. Then, suddenly, it hits you—a paint program with minicomputer power and Macintosh ease of use. PixelPaint is about to change the way you work and think.

See to your professional needs.

It doesn't matter whether you're a Director of Marketing, Designer, Art Director, Trainer, Architect, Illustrator, Video Artist, Producer, Software Designer or Corporate Manager. When you schedule a visit to your SuperMac

You're standing in front of a Macintosh™ Software dealer, you'll be making a date with your next creative breakthrough. Do it NOW. Before you conceive another project within the limits of your past tools.

See the difference.

MacWorld's Jerry Borrell concluded that PixelPaint "rivals the minicomputer paint systems 'at have had five years to mature". At a fraction of the cost. And PixelPaint's interactive approach makes it a pleasure to use. You'll experiment, create and change effects quickly and precisely. You simply have to experience PixelPaint first hand to appreciate what it has to offer.

See your dealer. Call for your nearest authorized dealer now.

SuperMac Software 295 N. Bernardo Mountain View, CA 94043 Call (415) 962-2900, Dept. 25



A Division of Scientific Micro Systems

Acknowledgements: Puffins Muffins, Frog. Nix Diner: Pat Coleman. DTP slide, House: Barbara Smyth; Box Cover. Un dimanche à la Grande-Jatte: Georges Seurat (Photograph courtesy of the Bettmann Archive). Front Elevation: Robert White using MacDraft^a Registered Trademarks: PostScript: Adobe Systems, Inc. QuickDraw: Apple Computer, Inc.

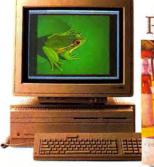
Output elegant color imagery on paper using thermal and other printers

Easily create presentation quality slides and overheads.

Create superb graphics for desktop and other corporate presentations. Produce precise, highlyfinished artwork for architecture and design projects.













Reworded

LET'S GET THE BIG QUESTION OUT OF the way first: Version 3.01 of *Micro-soft Word* works.

As a matter of fact, the new version — the number indicates a slight revision to the original, but it's a lot more — works quite well. It's good that it does, or Bill Gates would have found mobs of Macintosh users, lit tapers in hand, camped beneath his office window, howling for blood. It would not have been a pretty sight.

Word is important for the same reason that the new Apple keyboards are important; there's not much choice if you're a serious writer. I keep hearing about people who've written tomes using MacWrite and the original Macintosh keyboard, but they always struck me as the kind of people who dug through mountain ranges with a ballpoint pen. They presumably did it that way because they had to, but would have done it an easier way if one had been available.

Word 3.01 is that way. It's good, and it's powerful and its use is reasonably intuitive. At this writing —

Microsoft applied

industrial strength bug

spray and tossed in a

dash of PC flavor for

the latest — but surely

not the last — Word.

and there are other power word processors due on the market any minute — *Word* 3.01 is about all there is in its class.

Many, but not all, of the differences between versions 3.0 and 3.01 are bug fixes. Most of the others are changes in printing, and only one is of real consequence for a large number of users. To be sure that a document created under version 3.0 will print in 3.01, Microsoft tells you to open the document, repaginate

while holding down the Shift key and immediately save. Some of the other changes may affect you, so be sure to check out the Read Me First document on the disks.

Some annoying quirks remain. Snaking, newspaper-style columns still don't appear on screen next to each other, though you can see how they'll wind up in a document preview window. And entreaties from Dougs Clapp and Adams notwithstanding, there *still* isn't a way to count words. So, editors, if this review runs over or under, my apologies — *Word* just didn't let me check to see if it was to length.

THEM'S FIGHTIN' WORDS

In walking the byways and talking to other users while writing this review, I discovered a surprisingly strong love for *MacWrite* — a love that certainly exceeds its usefulness. *Word* is "too complicated," people said; "too many keystrokes — I don't need all that stuff."

That may be true. Word is a lot of program, and if all you do is punch

BY DANIEL J. ROSENBAUM



Reworded

out an occasional letter or memo that you don't mind printing in 12-point Helvetica, *Word* probably isn't for you. If you write long reports, need to import graphics or could benefit from customizable pull-down menus, check out *Word*.

Some people, though, crave simplicity. For them, Word features a Short Menus mode, accessible at the bottom of the Edit menu. For example, in Short Menus the Document menu gives you a choice of opening a header or a footer, repaginating, inserting a footnote and checking the spelling. With Full Menus, you can also use a built-in outliner, generate an index and table of contents, perform calculations and number paragraphs. We'll go back to the flexibility of the menus later. For the moment, let's look at how the program is organized.

MOUSELESS MACHINATIONS

IBM PC users will be right at home with Word. In fact, it is possible to

work with the program and barely touch the mouse. Pressing the period on the numeric keypad puts the menu bar in reverse video for a few

ord is important for the same reason that the new Apple keyboards are important; there's not much choice if you're a serious writer.

seconds. While it's in reverse, pressing a number on the keypad from 0 to 7 pulls down the corresponding menu: 0 brings down the Apple menu, 1 the File menu, 2 the Edit menu and so on. Pressing either the

down cursor key or the 2 on the numeric keypad (which corresponds to a down key on a PC keypad) moves you down the menu.

You don't even need the mouse to select text. Holding down the shift key while pressing a cursor key or a numeric keypad key will select text in that direction. SHIFT-2 will highlight text down; SHIFT-8 highlights it up; SHIFT-4 highlights left; and SHIFT-6 highlights right. SHIFT-7 moves the cursor to the beginning of the line and SHIFT-1 moves the cursor to the end of the line.

Carrying the IBM analogy further, the Command key works like the PC's Control key, so pressing COMMAND-6 moves the cursor to the next word to the right, and so on. The exception is COMMAND-1, which moves not to the end of the line, but to the end of the current sentence. Pressing COMMAND-SHIFT-6, then, would highlight the word to the right.

Wait — it gets better. All 26 letters



List price \$149 Includes a free template disk filled with forms ready to use. VISA, MasterCard, American Express accepted.

For direct orders or for more information, call or write: Shana Enterprises Inc. 200, 9704 - 54 Avenue, Edmonton,

Alberta, Canada T6E 0A9 (403) 438-6548

Personal Toolkit For Forms

Fast Forms is a powerful forms management system that allows you to create, customize, retreive and *use* professional forms on your Apple® Macintosh™ computer.

You can use Fast Forms for anything from simple office memos to complex invoices, packing slips, order forms or even financial reports. And once created, the Fast Forms desk accessory (also included) lets you fill in and print you forms while using any other program! At last you can quickly address an envelope or print an invoice without interrupting your more important work.

The Fast Forms object oriented drawing program lets you create your professional forms with an impressive variety of design elements. Gray screens, hairlines, variable type sizes, text editing, customized horizontal and vertical grids, and printing and non-printing drawing planes are only a few of the useful features of Fast Forms.

Place data entry fields on your form where information is filled in. Fast Forms will format fields and even perform calculations automatically. When you fill in and print your forms you can optionally export the data, then later use your information with other applications such as your database, wordprocessor or spreadsheet.

Fast Forms: your complete forms management system. Fast Forms gives you the ability to not only create and customize professional forms, but to *use* your forms effectively.



Fast Forms is a trademark of Shana Enterprises Inc. Apple is a registered trademark and Macintosh is a trademark of Apple Computer, Inc. Copyright # 1987 Shana Enterprises Inc.

NOW THERE'S 3+ FOR MACINTOSH...AND ONE HALF OF CORPORATE AMERICA CAN TALK TO THE OTHER HALF.

A recent study* indicates the rapidly growing acceptance of the Macintosh by the business world.

Yet this is of little value to Corporate America if Macintosh users cannot communicate with and share the resources of existing IBM PCs, Personal System/2s and IBM PC compatibles.

That's why—because of 3Com's continuing commitment to total networking encompassing all standards, architectures and platforms—we've developed 3+ for Macintosh.

3+ for Macintosh is part of the 3Com 3+ family of network system software, Corporate America's most comprehensive, productive and popular networking system software.

While 3+ for Macintosh adheres to the new Macintosh standards, it's also the first operating software to integrate both Apple and IBM networking standards on the same server.

Meaning that both Macintosh and PC users can share and access files from each other's directories or folders when using programs such as Lotus

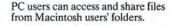
> 1-2-3, Microsoft Word, Microsoft Excel and Aldus PageMaker. Workgroups can communicate between networks, whether they run on Ethernet, AppleTalk or Token Ring.

This means they can share the resources of servers and printers and enjoy the benefit of print spooling.

And best of all, workgroup members can communicate via the most sophisticated and productive electronic mail in the networking business.

3Com 3+ electronic mail gives workgroup members communication with other distant workgroups, remote access to the network and connectivity to MCI Mail and DISOSS systems via gateways.

There is no better way for Corporate America to connect its installed

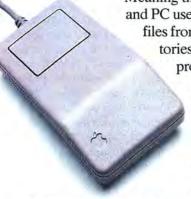


base of PCs and Personal System/2s to its newly acquired Macintoshes than with 3+ for Macintosh.

Because 3+ for Macintosh is part of the 3Com 3+ family of network system software.

And there is no better network software. For your nearest 3Com dealer, call 1-800-NET-3Com.

*PC Tech Journal (August 1987) showed that 49.7% of readers who responded to a questionnaire felt that Macintoshes would be of importance to their companies in the future.



Macintosh users can access files from PC users' directories.



3Com[®]

Please circle 65 on reader service card.



Introducing MacSQZ!™ for Micro-

soft® Excel. MacSQZ!, a combination desk accessory and application, makes Excel even better by making spreadsheets smaller and safer. Smaller because MacSQZ! shrinks the size of your spreadsheets on disk by as much as 95%. Automatically, as you use Excel. You get 95% more use from your disk space. With almost 0% effort. Safer because MacSQZ! adds effortless backup and file-level password protection to Excel. It also shows a history of spreadsheet changes and lets you see which spreadsheets are linked together. With MacSQZ! harder, so your work is easier.

Please circle 206 on reader service card.

Reworded

of the alphabet have Command-key combinations assigned to them, and some of them are pretty obscure. A spelling check is started by pressing COMMAND-L. Footnoting is COM-MAND-E. Character formatting is COMMAND-D. Closing a document is COMMAND-W.

Some of the most vital key combinations aren't even shown on the screen. You'd have to look in the manual to see that COMMAND-SHIFT-B boldfaces text, and COMMAND-SHIFT-I italicizes it. And you have to be pretty sharp-eyed to find out that COM-MAND-SHIFT-> increases the size of

ne trouble is that Word inexplicably doesn't give you access to all the fonts in your System. The manual says nothing about it, but the fonts just aren't there.

the selected text, and that COMMANDshift-< decreases it.

If you're not a keyboard freak, mousing around with Word is pretty straightforward. When the pointer is in the extreme left edge of the window, it points upwards and to the right - sort of north by northeast. Single-clicking marks the line next to the pointer; double-clicking marks that whole paragraph. Commandclick marks the entire document; that turns out to be a fairly important technique, as you'll see later.

If you want to use the ruler, though, you'll have to use the mouse. The two triangles beneath the 0 on the ruler line control the left margin. You adjust the margin by clicking and dragging them. Clicking on the upper triangle lets you adjust the size of a paragraph's first-line indent. Clicking and dragging the lower triangle moves the left margin and keeps the indent distance fixed

relative to the margin. If you want to change the margin and leave the indent where it is (that is, fixed relative to the ruler), Shift-Click and drag on the lower triangle. The vertical lines on the ruler itself mark default tab stops, and the triangle on the right marks the right margin. The right margin can be dragged; default tabs need to be set from the Page Setup entry on the File menu.

The material on the line beneath the ruler line is fairly self-explanatory. The four characters on the left represent left, center, right and decimal tabs. The vertical line places a vertical line in your document. The four alignment icons set a paragraph to be left-aligned, centered, rightaligned or justified. The icons to the right of them control single-spacing, line-and-a-half spacing or doublespacing. The rightmost set lets you put an extra line space before a para-

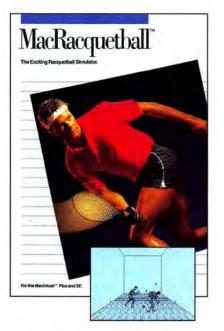
The key to all the formatting commands which can be issued through the ruler line is that they affect only the paragraph that contains the cursor or is currently highlighted. This goes to the heart of what some people consider to be Word's confusing user interface. If you change margins or fonts, only the current paragraph's margins or fonts will be changed, unless you've marked more than one paragraph. To affect the entire document, you must put the pointer on the left edge of the window, press COMMAND-CLICK, and only then make the change you want.

Remember: Word formats its documents on a paragraph-by-paragraph basis. It's not enough to make a change - you must make sure that the change is applied to all the paragraphs you want changed.

So you see the designers have taken great pains to keep both Mac and PC users reasonably comfortable with Word. Comfort, though, means nothing if the program doesn't work or doesn't have the features that make the thing useful.

ULTERIOR BUGS

Version 3.0 was excoriated for its bugs, but if 3.01 has any left, I couldn't find them. [Editor's note: Other readers have, however. They'll

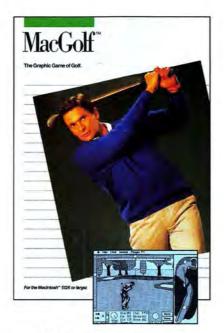


The hottest sport on a court – the hottest game a Macintosh™ can handle.

Even if you've never been on a racquetball court, you'll spark to the excitement of this challenging simulation.

MacRacquetball turns your
Macintosh screen into a full perspective 3-D display of court, players and
ball. With the mouse, you have complete control of player position, ball
placement, ball speed and shots.
Two people can play the same game
over AppleTalk® or modem.

Superb graphics give Mac-Racquetball completely convincing realism. There are more than 1000 frames of ultra high speed digitized animation. It's one racquetball court that's always open when you're ready to play.

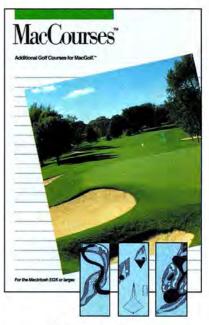


Enthusiastic players everywhere have made MacGolf the best selling Macintosh game ever.

MacGolf puts you in the picture, a full perspective 3-D simulation of realistic golf action. You match your skills against fairways, roughs, bunkers, water hazards, sand traps and trees.

MacGolf gives you a player's eye view of the course, in any direction, and an aerial overview of each hole. You have complete control of your position, ball placement, ball speed and direction, and selection of all 14 clubs. Digitized graphics and sounds add to the excitement.

MacGolf is so close to the real thing it will improve your golf game. And by the time you've reached the eighteenth hole you'll know you've been in a real contest.



When you have the best selling Macintosh game in the world, what do you do for an encore?

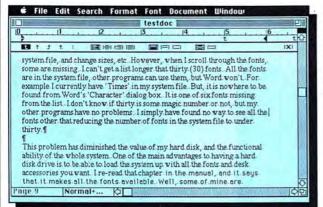
Here's new turf for adventurous MacGolfers. These are courses to conquer for mouse wielding pros who have taken the measure of the original MacGolf courses.

If you liked MacGolf, you'll love what MacCourses brings to the screen. Four new 18 hole, par 72 courses: Cedar Creek, Golden Sands, Thunder Ridge and PCAI International. The fairways, traps, hazards, and putting greens of MacCourses are in a whole new league.

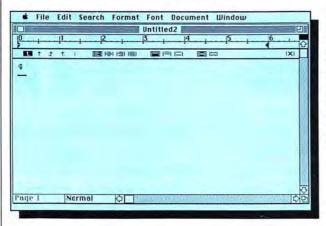
If you thought MacGolf was good training for the outdoor game, MacCourses should turn you into a pro. Get MacCourses now, use it when you're ready—you never know when you'll need the challenge.



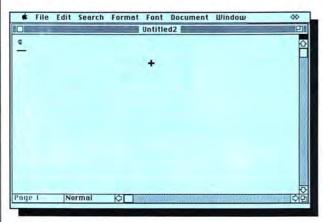
Reworded



The menu bar goes into reverse mode when you press the period on the keypad. This allows you to access all of the menu commands using the keypad numbers and cursor arrows.



To resize margins and indents, click the mouse and drag the two triangles beneath the 0 on the ruler. The vertical lines on the ruler indicate the default tabs, and the large triangle beneath the numeral 6 marks the right margin for the document.



Pressing COMMAND-OPTION- + turns the cursor into a giant plus sign. This forces Word 3.01 to recognize all the fonts in your System, including the ones it previously ignored.

be featured in upcoming bug reports.] When I asked the MacUser editors exactly what the problems were with version 3.0, they told me that its display and printing "didn't work." (Actually, I was told it in rather stronger terms not suitable for a family magazine.) Specifically, the old version had a habit of depositing paragraphs unexpectedly and randomly across the printed and displayed page.

Statements like this tend to follow writers into their graves, but I could find no functional problems with *Word* 3.01. Everything worked, if not precisely instinctively, at least reasonably well.

Now, with everyone gunning for this release of *Word*, I fully expect the letters column to be full of complaints like, "Rosenbaum's been drinking too much New Jersey water; features A, B and C don't work right." But remember — just because something doesn't work the way you think it should doesn't mean it doesn't work.

And in fact, not everything here is wonderful; there are some oddities in the way *Word* works. The program doesn't pick up all the fonts in your *System*, and it doesn't automatically remember your preferred working font. The manual fails to explain the former, but tells how to fix the latter.

To fix the default fonts, you have to mess with style sheets. Style sheets are Word's way of controlling prefab paragraph formats. If you want a paragraph to be double-spaced with a 11/2-inch left indent, you can define a "style" which you may then apply to whatever paragraphs you wish to carry that format. Every paragraph has a "style," but the default style is called "Normal." (The style for the current paragraph is shown at the bottom of the screen, next to the page number.) To set your default font, you need to edit the Normal style so it includes the font you want.

Edit a style by pressing COMMAND-T (or select DEFINE STYLES on the Format menu), clicking on Normal and formatting as usual. If you want to set the font, use the Font menu. Then press the Define button, then the OK button, and your new font

will become the default.

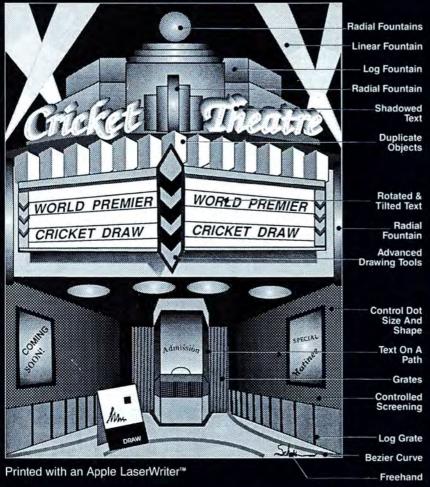
The trouble with this is that Word inexplicably doesn't give you access to all the fonts in your System. The manual says nothing about it, but the fonts just aren't there. All isn't lost, though, because you can edit the menus. Press COMMAND-OPTION-+ and the cursor turns into a giant plus sign. (Although Microsoft calls it COMMAND-OPTION-+, you don't hold down the Shift key to execute this command, so purists would call this a COMMAND-OPTION-= key combination.) If you want to add an installed font to the Font menu, go into the Character entry on the Format menu and click on the font you want to appear in the Font menu. (All your fonts will appear.) The selected font will now show up in the Font menu. You can also add tab and paragraph formats to the Format menu, and even create an eighth menu called "Work" that contains

cricket

DRAW

FIRST IN SPECIAL EFFECTS

New! Version 1.1 Features Improved Speed





Cricket Software, 30 Valley Stream Parkway, Great Valley Corporate Center, Malvern, PA 19355 (215) 251-9890

Every place you look you'll see rave reviews. Why? Because Cricket Draw has created a **new** state-of-the-art in Macintosh drawing technology.

Spectacular Special Effects

Cricket Draw's most universally acclaimed capability is its special effects generation. A quick glance at the example at left will give you a feeling for what can be accomplished with a little imagination and Cricket Draw. Graded Tones (fountains), Shading, Text on any path — all these effects and more are simple with Cricket Draw.

For Creators...

If you use your Macintosh to create graphics, then you certainly want the industry's most comprehensive set of drawing tools. You want the industry's most advanced text manipulation tools. And you want the ability to take full advantage of PostScript equipped devices. With the Power of Cricket Draw, you can finally unleash your true creative potential.

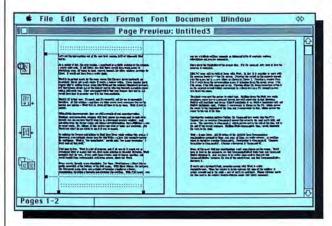
For Professionals...

Graphic Arts? Desktop Publishing? Cricket Draw allows you to create prescreened, camera-ready art, complete with typeset copy.

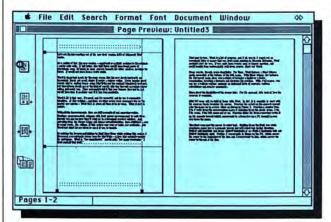


When it comes to Macintosh graphics software, there's just one name to remember — Cricket Software. Your local dealer will be happy to introduce you to the entire family: Cricket Graph, Cricket Draw, Cricket Presents..., and Cricket Device Drivers.

Reworded



Selecting PAGE PREVIEW in the File menu gives you a WYSIWYG display of your document. Use either the magnifying glass icon or double-click on a spot to examine it more closely.



Reset margins in Page Preview by selecting the Margins icon. The margin lines are displayed with handles that can be dragged to readjust width and page length.

the names of frequently used documents and styles, putting them just a point and click away.

Anything you add can be removed by pressing COMMAND-OPTION-MINUS and clicking on the entry you wish to erase.

You can use a similar technique to get help. Press COMMAND-?, and the Ibeam turns into a giant question mark. (Again, since you don't hold the shift key down, this is technically a COMMAND-/ combination, but COMMAND-? is a better mnemonic.) Pull down the item you want help with, and you get a quick refresher on it. If you need help with something that isn't on a menu, ask for help from the Apple menu.

SNEAK PREVIEWS

A word needs to be said about the page summary facility, which is one of the stronger parts of the program. When you've got your page the way you think you want it, with columns set up, proper font changes in and graphics located, you can see how the document will look on paper by

selecting Page Preview in the File menu.

To examine a spot on the page, either double-click on the spot you want to see, or click on the magnifying glass icon and drag it to that spot. To place a page number on the page, click on the page number icon and drag the number onto a page. If you don't want to see facing pages, click the lowest icon; click it again to get two pages on a single screen.

Most interesting is the margins icon. Click it and the margins are displayed, complete with handles. Point the mouse at one of the handles and drag any of the margin lines to where you want them. Release the mouse button and click somewhere off the page, and the document will reformat according to those new margins. If you only want to adjust a page break, you can drag the faint dotted line at the bottom of a page's text upwards; the text will reformat. The scroll bar on the right lets you page through the document, and the close box returns you to normal display.

THE PRICE OF POWER

Word is powerful, but it is not flawless. Text brought in with the Clipboard is not in your default style, but is always in Geneva. A small pain, but an odd bother. It is not possible to print only odd or even pages — a problem when you're printing on both sides of a sheet of paper, as you would when printing something to be bound.

One bug warning. During one work session, while testing columns, repaginate and page preview, paginating started to act up. I was not able to reproduce the difficulty, and it only turned up once, but I don't think I was doing anything wrong at the time. It's an unresolved issue, though everything appears OK.

When everything is added up, there is far more to praise *Word* for than to damn it. Bugs in an earlier version make this program something of a target — guilty until proved innocent — but my testing doesn't show anything that would eliminate this program from active consideration.

Word may be more word processor than you want or need, but it's a solid power tool for processing heavyweight quantities of text. If you've got a big job, Word may be the package for you.

You've got my word on it. 🛱

DANIEL J. ROSENBAUM IS A CONTRIBUTING EDITOR TO THE BOSTON COMPUTER SOCIETY AND HAS WRITTEN TWO BOOKS ABOUT WORD PROCESSING, WITH ANOTHER DUE TO BE PUBLISHED SHORTLY.

MACUSER RATING Word 3.01 \$\$\$\frac{1}{2}\$\$\$\$\frac{1}{2}\$\$\$Follows Mac Interface Printed Documentation On-Screen Help Performance Support Consumer Value

Comments: The bugs appear to have been exterminated. Best Features: Customizable menus, full keyboard operation, interactive page formatting. Worst Feature: Lack of on-screen column display. List Price: \$395. Requires 512K+. Published by Microsoft, 16011 NE 36th Way, Redmond, WA 98073. (206) 882-8080. Not copy protected.

cricket

Tools

Blue

Cyan

Magenta

Yellow

FIRST IN BUSINESS/ SCIENCE GRAPHING

New! Version 1.2 Features Improved Data Entry & **Graphic Enhancement Tools**

File Edit Data Graph Europ Fit Goodies Formats Windows Familiar Untitled Data #1

A 0 \$85034 \$50509 April 0 \$40134 \$100124 August September October Colors K Black é File Edit Data Groph Lurve Fit Goodies Formats Windows K 645400 Red 2) #1 Error 309.202 723.254 320.084 521.890 Green

dh

Stack

Polar

1.804 4.545 9.406 17.032

28.079 43.204 63.075

88.360

spreadsheetstyle data entry

288.321 469.000

Choose from 12 different graphs and charts

More than two years after its initial release, Cricket Graph still receives rave reviews. Why? Because Cricket Graph is THE Macintosh standard in business/ science graphing.

Elegance Defined

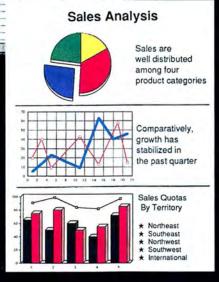
Powerful, yet easy-to-use — it's the measure of "elegance" in any software. Cricket Graph is elegance defined.

Data is entered in a simple, spreadsheet-like format, or it can be imported from many popular formats. Once the data is entered, you select from 12 different graphs and charts - Cricket Graph does the rest!

Full-Color Presentations

Cricket Graph gives you the ability to turn your graphs into dynamic, full-color presentations. You can place several graphs on a single page, add text and symbols, add color - even add three dimensional effects! When completed, you can print your results on a wide variety of devices with Cricket Device Drivers.

Enhance graphs and create full page presentations





When it comes to Macintosh graphics software, there's just one name to remember - Cricket Software. Your local dealer will be happy to introduce you to the entire family: Cricket Graph, Cricket Draw, Cricket Presents..., and Cricket Device Drivers.



Cricket Software, 30 Valley Stream Parkway, Great Valley Corporate Center, Malvern, PA 19355 (215) 251-9890

Roll Over, Walt Disney

VideoWorks II is a

rarity: a sequel far

better than the original.



THE ORIGINAL VIDEOWORKS SET THE standard for Macintosh animation, and VideoWorks II updates the standard. Not only is it more powerful, but it's easier to use. And, in keeping with the Mac's current businesslike air, VideoWorks has a new subtitle: "Animated Presentations for the Office, School, or Home." Yes, it can now pass as a business tool, but you can still make lots of good cartoons, too.

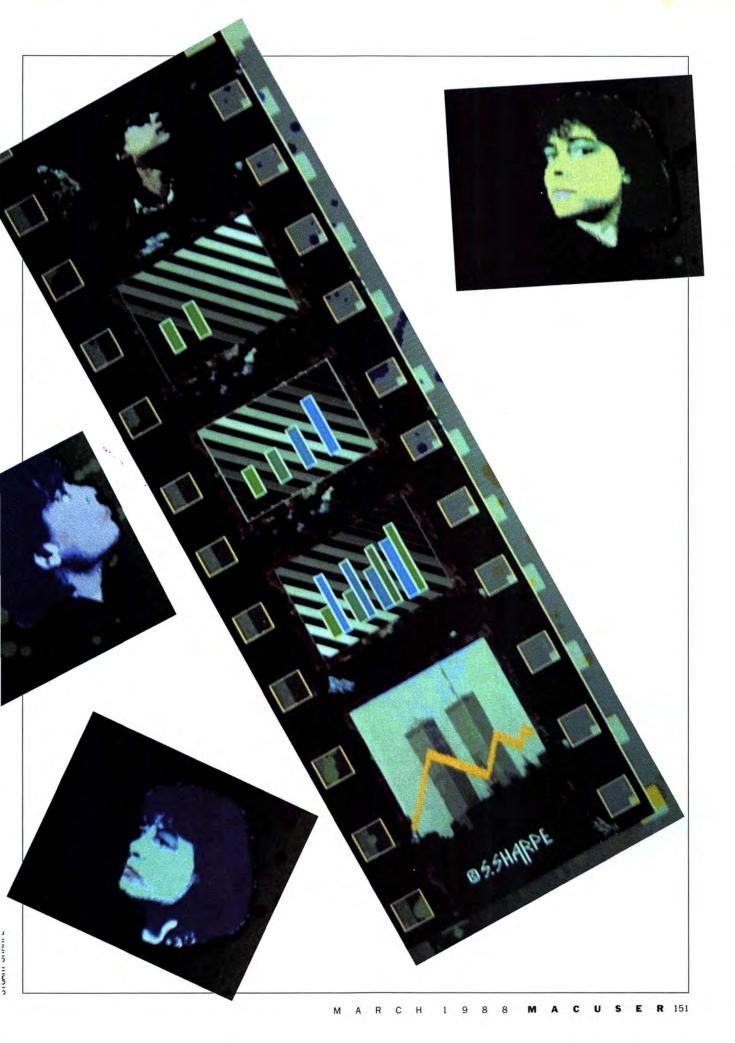
Video Works II's new approach offers two levels to the user: a sophisticated slide show manager called "Overview," and a full-blown animation environment — the real Video Works II. Many users won't ever need to learn the intricacies of animation, since the slide show mode is so versatile.

STILL LIFE PLUS

Overview is the "simple" mode of *VideoWorks II*. Although calling it a slide-show creator is generally accurate, Overview goes far beyond putting a series of still pictures on the screen.

An Overview presentation can import any of a variety of documents. *MacPaint*, PICT or *Glue* documents can be used as the "stills." The length of time each stays on the screen is defined, and transitions, including various wipes and dissolves,

BY SHARON ZARDETTO AKER



Roll Over, Walt Disney

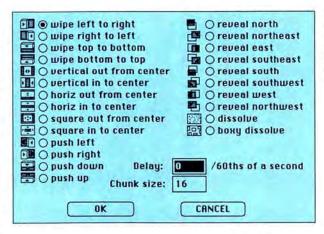
are chosen. You can set the speed and the "chunk size" for all the transitions. The chunk size is the number of pixels (from 1 to 512) that the wipe moves in the time chosen. For instance, moving 512 pixels in 1/60th of a second is instantaneous. One pixel in the same time results in 60 pixels a second and a gentle fade to the next image.

A Video Works movie can be inserted at any point in the presentation, and even another Overview document can be included. What's really special about Overview, though, is that you can superimpose a Video Works movie over any still document. So if you have a chart on the screen, an arrow (actually a Video Works movie) could float in to point at an important spot. You can also add sound effects from the built-in collection of nearly 100 sounds.

The actual creation of an Overview presentation is easy once you get the hang of it. Grab an icon for the type of document you want from the palette and drag it into the Overview sequence window. The Open dialog appears so you can find the specific file you want. Timing is set with the watch icon. Transitions are added by dragging the transition icon into the sequence and choosing one of 24 dissolves, wipes or fades from a dialog box.



When you want to overlay a *Video Works* movie onto a still, just put the film icon below the slide; sounds are added the same way. There's even a special QUICK CREATE option that



There is a wide variety of transitions to choose from in Overview; the same transitions are available for any frame of a VideoWorks movie.

puts all the documents from a specified folder into the Overview window without your having to open each one individually.

To position a document on the screen, double-click on its icon in the Overview window. The document is displayed in the background and its Get Info window opens — not to be confused with the GET INFO command issued from the desktop. This Get Info window lets you position the art on the screen without your having to worry about where it's placed on the original art document. Type the coordinates in the Get Info window, or simply drag the document around the screen with the Hand tool. The Get Info window for a Video Works movie in Overview lets you set a number of options: What position it plays in (so you can line it up correctly relative to the slide it's playing over); when it starts (with or after the slide is displayed); whether its elements disappear when the movie is over, leaving only the slide on the screen; whether the movie should run for its own length of time or match the timing for the slide; and whether the movie's sounds should be played.

If you are working in Overview and want to create a quick *VideoWorks* enhancement for any slide, it's easy to switch to the VideoWorks mode; the program even keeps the slide in the background so you can work on top of it.

Overview lets you launch directly into another program; when you quit that application, you'll be returned to Overview as you left it. So, for instance, if you notice a *Mac-*

Paint document slide is not exactly the way you want it, go directly to MacPaint and fix it. Quitting MacPaint brings you back to Overview, with your slide show as you left it—except that the MacPaint document is fixed. You can set the launch program for a generic document in a preferences dialog. For example, a PICT document can take you to

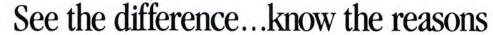
ideoWorks has an almost bewildering number of windows, and lots of program-specific terminology.

MacDraw or to SuperPaint. You can also launch another Overview document that might be part of a slide show; then fix it and return to the current presentation — and you can do this five levels deep.

Launching into another application is a neat trick. However, it would have been an unnecessary trick if Overview shared the Paint facilities of the VideoWorks mode, which would allow you to touch up a slide without leaving Overview. Designing the Paint window as a desk accessory would have solved this problem. Overview has other drawbacks, too. It seems to be designed to create self-running slide shows rather than shows that enhance a talk or

The best color graphics system for the Macintosh II.





You are about to enter a new dimension in personal computing with the PCPC II TM, a high resolution color graphics system for the Macintosh II. The PCPC II 19 inch monitor gives you a giant window into the color world of computer aided design, computer modeling, advertising, presentation graphics, desktop publishing and unlimited color applications. Designed for the most demanding professionals, the PCPC II provides the power and performance required to be your creative best.

Look at a PCPC II and experience the sharpest and most vivid colors possible. Witness a dazzling display of 256 colors from a palette of 16.8 million hues for the most realistic images possible. And for monochrome graphics, 256 shades of gray provide maximum detailing.

At PCPC, quality is an essential part of the design. Quality starts with state-of-the-art monolithic CMOS technology, Zip-pack video RAM for high reliability, and the lowest possible parts count to assure long life and trouble-free use. With 768K of video RAM, the PCPC II provides a resolution of 1024 x 768 with 8 bits per pixel. The non-interlaced display ensures an absolutely flicker-free screen and the sharpest picture imaginable. The high resolution monitor (previously found only on engineering workstations costing many thousands of dollars more) displays your work in its best light. The monitor's super fine pitch (0.31 mm) means you get incredible clarity. And for your personal comfort, the PCPC II features an anti-glare coating and a tilt-swivel base.

Now that you know the true colors of quality, don't compromise!



Personal Computer Peripherals Corp. 6204 Benjamin Road, Tampa, Florida 33634 (813) 884-3092 (800) 622-2888

Please circle 12 on reader service card.

Roll Over, Walt Disney

speech. You can't set an "infinite" time for a slide so that it is displayed until you manually move forward to the next slide. While a mouse click always moves you to the next slide regardless of the time setting — and you can set a very long time for display, such as 10 minutes — the "wait for a click" setting should be built in. Nor can you make the mouse cursor disappear or change shape; an enlarged arrow would be especially helpful for pointing things out on the screen.

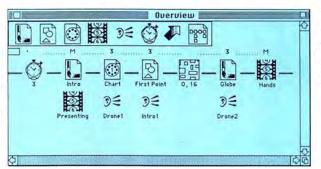
The other thing Overview needs is a "list" view. Icons are fine for short presentations, but handling a large number of documents in the Overview window is clumsy. There's no way to find out just how many slides you've included, and there's no go To command to jump to the one you want. You can only scroll back and forth along the horizontal line of icons. A text view (no matter how heretical it sounds) would be much easier to work with for large presentations.

THE TOP FLOOR

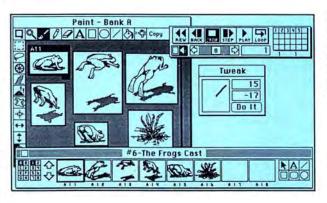
VideoWorks II offers many improvements over the original version. Color and large screen capability, for instance, have been added to keep up with hardware advances.



Two of the most significant improvements in the working environment (as opposed to the finished product) are "film loops" and "registration points" — there's more on



The Overview window.
The icon palette is at the top; in the main window, the icons represent the slide show presentation and can be easily reorganized.



Four of VideoWorks' windows. Each cast member you draw or alter in an easel in the Paint window is automatically entered in the Cast window.

those enhancements in the sidebar "For the Birds."

Video Works has an almost bewildering number of windows, and lots of program-specific terminology. The screen itself is the "stage;" each piece of art you use, whether animated or immobile, is a "cast member." Each cast member (you can have up to 512 of them in a movie) appears in a separate cell in the Cast window. The Paint window lets you create or alter cast members. Each time you use an "easel" in the Paint window, its contents are automatically entered into the Cast window. The movie you make consists of a series of "frames," like genuine movie film. The Control Panel lets you play your movie with VCR-like controls: Play, Rewind, Fast Forward and Step and Back to move a frame at a time. A Loop button moves the film back to its beginning once it has ended. The last of the main windows is the Score window, and it's the crux of movie creation. It represents, with esoteric notation, everything in the movie, much as a conductor's score represents everything an orchestra plays.

GOOD ENOUGH FOR HOLLYWOOD?

To make a movie, start, as any good director does, by casting it. Create cast members in the Paint window, or paste them directly into the Cast window from the Clipboard after creating them elsewhere. You can even put a snip of animation in

The Control Panel
lets you play your
movie with VCR-like
controls: Play, Rewind,
Fast Forward, and Step
and Back to move a
frame at a time.

the Cast window and treat it as a cast member.

Once you have your cast set, decide what kind of animation you want. The easiest is to make a single object move across the screen. But,

How Jasmine turned SCSI into a Moving Experience.



Roll Over, Walt Disney

even a simple motion like that can be done in a number of ways.

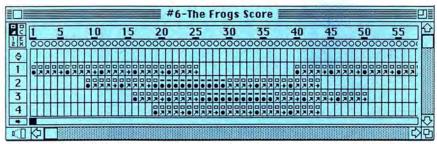
The easiest way to make something move across the screen is to do a "real time" recording. Just drag the object around on the screen and the motion is recorded. For smoother motion that goes in only one direction from start to finish, use the IN-BETWEEN command. With that you define the beginning and end points for the object, how many frames you want between them, and voilà! You get smooth, instant motion. If you drag to change the size of the image, the IN-BETWEEN command figures out all the intervening sizes, too. The third option is to use the Tweak window, which lets you define the motion pixel by pixel from frame to frame. Since it deals in such small values, the Tweak window is more appropriate for fine-tuning movement.

A more sophisticated technique for animation is to change the appearance of the cast member slightly from frame to frame. The flag on the sailboat, for instance, could flutter in the breeze as the ship moves. This involves making two or more cast members for a single item, and switching between or among them as the frames advance. This is a simple technique in *VideoWorks* because all you have to do is click forward a



frame and double-click on the cast member you want on the stage. The new cast member replaces the currently-selected member.

In the old Video Works, replacing cast members was tedious because



The hieroglyphics of the Score window are simple enough to interpret after a little practice. This display indicates when each cast member appears and disappears, and in what direction it moves from frame to frame.

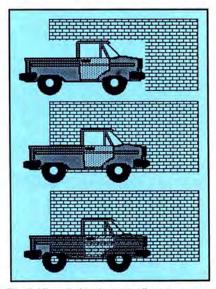
the centers of the figures were always matched; you had to manually tweak the position of the replacement so it would be in the right spot relative to the last cast member. Now, though, you can set the registration point yourself for any cast member while you're in the Paint window; the figures are matched at their registration points rather than at their centers. This makes it simple to keep, for instance, the body of a bird as the registration point as its wings are flapping, no matter what the actual center of the figure is.

MOVING RIGHT ON UP

You can make simple movies without using (or only slightly using) the Score window, but learning how to "Score" makes heavy-duty animation easier. The score of the movie gives you the overall picture (no pun intended) in a row and column format. Working in the Score window lets you polish the production, the film and frame transitions and sound.

Video Works has 24 "channels," which are layers of items on the screen. The channel a cast member is assigned to defines its priority on the screen — whether it appears in front of or behind other items. In the Score window, you can Cut, Copy and Paste frames of animation within or between channels. That lets you quickly turn a single bird flying across the screen into a flock that would win Hitchcock's approval.

In addition to handling 24 channels of cast members, the Score window coordinates sound with the action. The hierarchical Sound menu supplies about 100 different "canned" sounds, as well as access to sampled sounds and MacInTalk speech. The Score window also lets



The "ink" applied to the truck affects its appearance in relation to the wall behind it. At the top, "Copy," the normal mode; in the center, "Matte;" and at the bottom, "Or," the transparent mode.

you insert transitions between frames (the same ones as are available in Overview) and control the speed of the movie.

The information in the Score window looks like hieroglyphics until you get used to the symbols. Then they still look like hieroglyphics, but at least you can interpret them. On a simple level, you need only to look for where the appearance of a cast member begins and ends, but much more information is available. The Score window provides a row for each of the 24 channels; each column represents a frame. The basic display shows in which frame a cast member appears, the direction it moved since the last frame and when it disappears from the movie. An optional display shows the "ink" used for the cast member; you can set and change inks from within the Score window as well as from the Ink menu. A third display option tells

you what number the Cast member occupies in the Cast window. The fourth option, the Extended Button, lets you read all or any combination of this information plus the X and Y coordinates of the image and the changes in X and Y values between frames. Once you get used to reading the hieroglyphics, the Score window becomes an amazingly powerful tool. It allows you to make global changes to an image within a sequence as opposed to changing each cell one at a time.

THAT'S NOT ALL, FOLKS

Video Works procedures can be carried out by menu commands, keyboard equivalents or by using the mouse. The Cast window includes a half-dozen icons that let you draw shapes and quickly add text to any frame. There is a menu full of patterns, another that provides text commands and another that lets you select the inks you need. Video Works uses hierarchical menus to cut down on the clutter of all the commands. Another clutter-cutter is the Short/ Long menus modes that you can toggle between. Short menus give you only the basic functions, while Long menus let advanced users have a full array of command choices.

There are a lot of keyboard commands. The numeric keypad doubles as a control panel for frame-stepping, rewind and the other general commands; and windows are assigned numbers so you can toggle them on and off. Unfortunately, the File menu lacks the basics of COM-MAND-P, -Q and -s for PRINT, QUIT and SAVE; the letters are used elsewhere. It's difficult not to hit COMMAND-S for SAVE at regular intervals; the menus should at least be configurable. Oddly enough, COMMAND-Q will QUIT if you are using a System other than the one provided on the master disk. It's also missing a CLOSE command entirely - a strange oversight in such an elegantly designed program. You have to issue a NEW or OPEN command to close the current document.

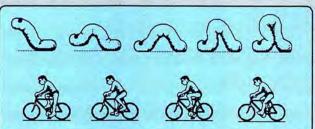
The Ink menu is one that you have to experiment with quite a bit to get just the right effects. The basic inks of Copy, Or, Xor and BIC, and their

Clip Joint

Just as clip art came to the rescue of those of us who, even with *MacPaint*, couldn't produce artistic results, now there's "clip animation" to rescue us from the doldrums of animated presentations. And there's special clip art to use for animation: figures in various stages of movement that you can put in a sequence of frames.

Clip animation is particularly helpful for adding spice to Overview presentations, but it can also be used as the basis for, or in addition to, original movies.

VideoWorks II comes with a number of clip animation sequences and some animation artwork. In addition, the publishers plan separate disks of clip animation, full movies, artwork and even digitized sound files; at this point, the expected price is \$60 per disk.



Samples of animation art provided with Video Works.

complements of Not Copy, Not Or, Not Xor and Not BIC, define how the black and white parts of an image combine with the black and white parts of anything behind it. (It's too bad they chose to keep those names in the menu; OR and XOR particularly smack of the binary roots of programming and combining digits, and they seem out of place here.) The Matte and Mask options, also in the Ink menu, rid an object of its surrounding white space and let you see through the "holes" in an item, respectively.

While the Video Works II documentation is a great improvement over the original manual, there are still many grammatical lapses and awkwardly structured sentences. But all the information you need is there. There are excellent tutorial sections for both Overview and Video Works tied into the samples on the disk. Animating tips are sprinkled throughout. In addition, Video Works comes with a good tutorial disk and a helpful quick reference card. There is also some on-line help, but it's brief and so general in nature that you won't want to be without the manual while you're learning your way around.

FINAL CUT

Video Works II is aimed at the busi-



ness market because that's where the money is, and that's where the Mac is going. It can be a valuable tool in the business world. But it's worth every penny (if you have that many pennies) to anyone who is fascinated with the graphics capabilities of the Mac. It's better and more satisfying than any game, and you'll get many more hours of pleasure from it than you would from most games.

But it's also true that creating the movie is a lot more fun than just watching it. After all, film, even when simulated on a computer, is a passive medium. While *VideoWorks*

Roll Over, Walt Disney

For the Birds

Two things that make animation so easy in VideoWorks II are the availability of registration points and film loops. To create a flock of birds flying across the screen, here's all you have to do.

Draw the figures (the bird with its wings in different positions) in the Paint window in separate easels; they're automatically entered into the Cast window. Set the registration point for each figure at the bird's head.

Drag the first version of the bird onto the screen.

Step forward to the next frame, and double-click on the next version of the bird; the second figure replaces the first.

Step and double-click for each of the other versions of the bird.

What you have at this point is a bird flapping its wings, staying in the same spot on the screen.

Instead of repeating this sequence in slightly different spots on the screen to achieve the across-the-screen motion, take a shortcut:

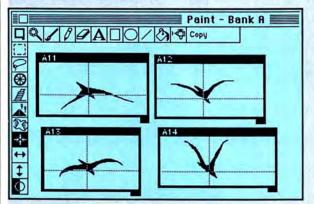
Copy the frames you've already created from the Score window.

Paste sequence into the Cast window. You've created a "film loop" as a single cast member; animation that you can use as you would any regular cast member.

With the film loop selected in the cast member window, hold down the Command and Option keys and drag the bird around on the screen.

This makes a real-time recording, and the bird, with its wings flapping, moves around the screen in the pattern you dragged with the mouse.

With that movie running, you can Command-Option-drag again (and again and again) to add more birds to the movie.



Setting registration points for each cast member helps keep the animation centered around the right spot.

II movies can be imported into an interactive application like Hyper-Card, Video Works itself doesn't let users interact with the program. They might as well be sitting in front of a TV set.

Desktop presentations are best when they are interactive. At press time, there was talk of an upgrade called Video Works Interactive which would add buttons and allow hot spots within a movie, but it's still in development. Even in its present form, if you want or need to create animation, Video Works II is the best tool on the market.

SHARON ZARDETTO AKER IS A CONTRIBUT-ING EDITOR FOR MACUSER AND THINKS CAR-TOONS ARE A PRETTY IMPORTANT BUSINESS, TOO.

MACUS VideoWorks II Follows Mac Interface Printed Documentation On-Screen Help Performance Support Consumer Value

Comments: An elegant, sophisticated program that lets you create movies easily. The Overview slide show manager alone is great; the improved VideoWorks animator is wonderful. Best Feature: The Overview module, and the addition of registration points and film clips in the VideoWorks module. Worst Feature: Standard command keys from the File menu are used for other purposes. List Price: \$195. distributed by Broderbund Software, 17 Paul Dr., San Rafael, CA 94903-2101. (415) 492-3200. Requires 512K+. Not copy protected.

The Adobe Type Library Gives You More Ways To Make A Difference.

Each Adobe Type Library package contain several typefaces from the families shown numbered below. Order yours today.

Palatino[®]

2 ITC Bookman®

3 ITC Zapf Chancery® Medium Italic ITC Zapf Dingbats® →* ♦ **

4 ITC Avant Garde Gothic®

5 New Century Schoolbook

6 Optima®

7 ITC Souvenir®

8 ITC Lubalin Graph®

ITC Garamond®

ITC American Typewriter®

ITC MACHINE®

ITC Benguiat® ITC Friz Quadrata

Glypha®

Helvetica® Light, Black

Helvetica® Condensed

15 Trump Mediæval®

16 Melior®

17 ITC Galliard®

18 ITC New Baskerville®

19 ITC Korinna®

Goudy Old Style

Sonata" 61 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

22 Century Old Style

ITC Franklin Gothic®

ITC Cheltenham®

Park Avenue

Bodoni

Letter Gothic

Prestige Elite

ORATOR

30 News Gothic

31 ITC Tiffany

32 Cooper Black

33 STENCIL Brush Script Hobo

34 Aachen University Roman Revue

Freestyle Script

35 Carta" ♦ ○ □★●↓ ○ ※ •

Lucida®

37 Univers®

38 Univers® Condensed

Futura® 1

40 Stone™ Serif

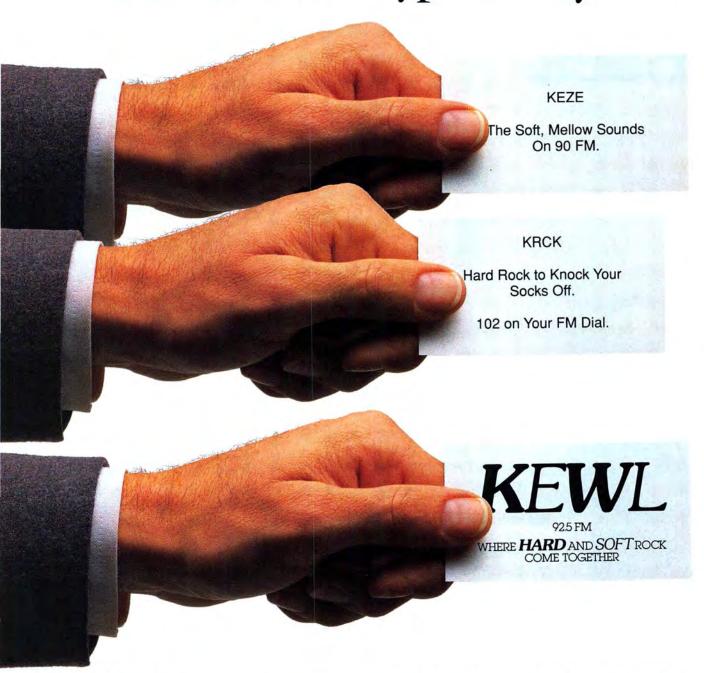
Stone™ Sans 41

42 Stone™ Informal See your nearest Authorized Adobe Dealer or call (800) 29-ADOBE. In Alaska and Canada, call (415) 962-2100. Make a difference with the Adobe Type Library.



All products are registered trad

If it makes a difference, make a difference with the Adobe Type Library.



The difference is impact.

Using just a few typefaces for everything you do is like wearing the same suit to work everyday. After a while, nobody notices.

But with over 200 typefaces in the Adobe Type Library, it's easy to call attention to everything you do. You can "shout" in a bold display typeface to gain immediate attention. Or "whisper" in delicate typefaces to communicate a mood.

And no matter which Adobe typefaces you choose, you're always getting the best quality. Because each typeface is

researched and refined to assure that it's true to the original design. And that it's sharp and reproducible whether it's set as a footnote or a headline.

So why limit yourself? Call now for details on the Adobe Type Library: 800-29-ADOBE; in Alaska and Canada, call 415-961-4400.

Because no matter what type of design it is, nothing makes a difference like Adobe type. Adobe Systems Incorporated, 1585 Charleston Road, P.O. Box 7900, Mountain View, CA 94039-7900.

"We'll Take It Back"



You hope the software will do the job. But, what if it doesn't?

"That's when you'll appreciate our proof of performance guarantee...

If you aren't happy with any program you buy from us, send it back, in saleable condition, and pay only our regular daily trial rates.

No if's, and's or but's."

-Réal

"We've found more and more customers who want to do business with us, because of our personnel and our style. These people know the software they want to buy. We want to offer



the most attractive service, including the ability to return software that doesn't fit."

-Lew

"The reviews answer a lot of questions, but it usually boils down to one or two pro-

grams that seem like they'd do the job. Customers like knowing they can go ahead and buy what they want, and still be able to return it, and not get stuck. And, our customers know we don't charge their card, until the order's been shipped."

- Jim

"People call us all the time, who are unclear about specific aspects of a program. We suggest they try a program before buying it. Trial purchase is a unique option, we offer. You can look at one, or several programs, to see which one best fits your application.





-Barbara

Whether you want to buy a program, or wish to try several competing titles, you're assured of getting Software That Fits. Call us right now, and ask for our free catalog.

Software That Fits"

1-800-972-3018 (713) 540-2300

MacRENTALS™ PO Box 4028•Humble, Texas 77347

Please circle 152 on reader service card.

Program	Daily Trial	Sale Price
Accountant, Inc.	4.68	179.00
Anchor 1200 Mode	m 3.51	137.50
DBase	8.80	321.00
Del Mus Const Set 2	2.0 1.73	66.55
Disk Express	0.99	35.95
Disk Top	0.99	35.00
Double-Helix II	9.80	375.00
Draw	4.91	179.90
Fontographer	6.72	245.00
Graphic Works	1.89	65.00
Insight Try-Pack*	19.50	990.00
Lightspeed Pascal	2.31	85.00
Mac Calc	2.33	84.00
MacDraft	4.36	159.00
MacGolf	0.99	38.05
MacInTax 87	2.75	67.95
MacLink Plus	4.36	149.00
MacMoney	1.29	44.05
Mathview	4.28	155.00
Micro Planner +	8.03	309.00
Microphone	3.12	120.00
Mini Cad 3.0	11.29	426.25
Power Station	0.99	36.65
Print Shop	0.99	39.00
Rags 3-Pak	8.20	315.45
ReadySetGo! 4.0	8.48	319.90
Scoop	9.10	350.00
Shadowgate	0.99	32.00
Stepping Out	1.62	59.00
Strategic Conquest	0.99	35.90
Studio Session	1.37	59.00
Suitcase	0.99	36.65
Super Laser Spool	2.72	99.00
Super Paint	2.47	93.45
Thunderscan 4.0	5.00	199.00
Write Now	2.76	102.00
*While supplies last	!	

Hardware and Accessories, too!

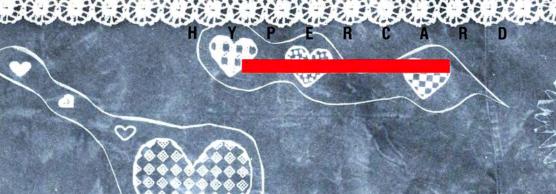
CMS Pro 60 II	779.00
CMS Pro 102 II	1,249.00
CMS Pro 140 II	1,695.00
CMS SD 20	579.00
CMS SD 60	879.00
CMS SD 140	1,795.00
High Trek Carrying Case	59.95
Mac Tilt	74.00
MacFlip 80	17.95

Select from 600 more...VISA and MasterCard accepted. Purchase orders accepted on approved accounts. Sorry, no COD's or personal checks. Trial purchase based on 10-day minimum, plus six free days for shipping.



SONY and KAO disks at BIG Savings...Call Now!





A Valentine's Day Tale

Do you still need

convincing? Let this

English gentleman

forever put your mind at

ease about your

Macintosh.

VINDICATION IS ALWAYS AGREEable. In my case, it is essential. "You'll see!" I shout, "I'll be vindicated! Time will tell!"

"It better do, buster," they shout

back, "or it's out in the street on your butt, and no hooey about compensation either."

Well, . . . my rump is safe for the time being. I was in The States what seems just like the other day (Can it really be that long ago? My gosh, we'll soon all be dead at this rate.) and, more importantly, so were thousands of others. Tens of thousands of others. And, most important of all, so was money. Lots of money.

I liked seeing all that money. I had, at one time, suspected that the Macintosh might (due to corporate stupidity, executive conformity, colossal marketing idiocies on the part of Apple Computer, Inc. and the general inability of the broad mass of Men In Suits to see a good thing when it was waggled under their noses) remain a minority machine, purchased

only by people who look like the sort of chaps who program for it.

Not so; the Macworld Expo clearly showed that the machine is here to stay, and the boring imbeciles who won't buy anything unless it says "IBM" and is difficult to use had better come to their senses.

It seems obvious to me, O ye corporatists out there, still pale and nervous about your jobs, that IBM has done the Mac the greatest service imaginable with its rather creaky "new" PS/2 personal computer. What's wrong with the PS/2? Nothing. It is unquestionably the finest desktop computer of 1983. Alas, this is 1988. You can build a great corporation around the motto "Yesterday's Technology — Tomorrow!" but you must expect people to whine, even if they are a tiny minority. So: what the PS/2 with its OS/2

BY MICHAEL BYWATER

A Valentine's Day Tale

operating system has done is display IBM's capitulation to the "sissy" Macintosh user interface of windows, icons, mice and so forth; and what it hasn't done is do it very well.

The revolutionary operating system, OS/2, is still but a fragrant vision emanating from the person of Microsoft's Bill Gates; the software adheres to no consistent set of protocols (the "graphic interface" being, like beauty itself, merely skin deep); the chip at the heart of the machine is by no means the most advanced option available to Big Blue; the color is inferior to the Mac II; and the muchtrumpeted concurrency which OS/2 will offer (always providing you run widdershins three times round the big red barn and pluck a nosegay of wild peonies before cockcrow) is damn-near available right now with the Mac's MultiFinder.

Even in the current marketers' flavor-of-the-month, desktop publishing, IBM's choice of Adobe's Post-Script as its printing language merely strengthens Apple's position, since Steve Jobs made a commitment to it many moons ago, and since the machine he fathered unquestionably does DTP much better than the IBM and its clones.

But the *main* point is that IBM is effectively saying: "All right. We 'fess up. The Mac-type interface is the way things are inevitably going, and what we are going to do is offer you a not-very-good version of that interface. You can buy the real thing for the same price if you buy Mac, but remember: The real thing does not say 'IBM' on it, so someone may well fire you if you buy it."

That's fine for sheep and cowards, but anyone in their right mind is going to say "Nuts to that!" and buy the real thing. And, judging by the interest and the level of prosperity at the Macworld Expo, there are quite a few people in their right minds walking around, still employed and doing rather well

ing rather well.

The end result? Well, . . . a couple of years back, people would come into my office, look at my Mac and say: "What the hell is that?" Now, I suspect, things are reaching the stage when people walk into an office with a new IBM sitting on a desk and say:

"Oh. A new IBM. Why did you get that? You could have had a Macintosh for the same money."

The philosophical crux of all this passionate partisanship is simply this: I believe that, at last, the Good

n the other hand, if you take the Macintosh route, you are clever. You are smart and a hero, and animals will cross the street just to be near you.

Guys are winning. PC sales over recent months in the United States seem, according to decent and reputable industry sources, to have been a pretty equal three-way split between IBM, IBM clones and Macs. That's quite a big leap toward orthodox respectability for the once-maverick machine, and while I resent the disproportionate attention being paid to the elusive Corporate Customer by Apple (who seem to have forgotten about the likes of us, and who got them where they are today, may I ask? Harrumph!) I am on the whole pretty happy about it.

In the end, I maintain that if you choose to do things the IBM way, you are taking a step backward: making things unnecessarily difficult, and being a gull and a dupe and a masochist. You are probably the sort of person who does unspeakable things with your food, and you can bet that your dog does not look upon you as some sort of god.

On the other hand, if you take the Macintosh route, you are clever. You are smart and a hero, and animals will cross the street just to be near

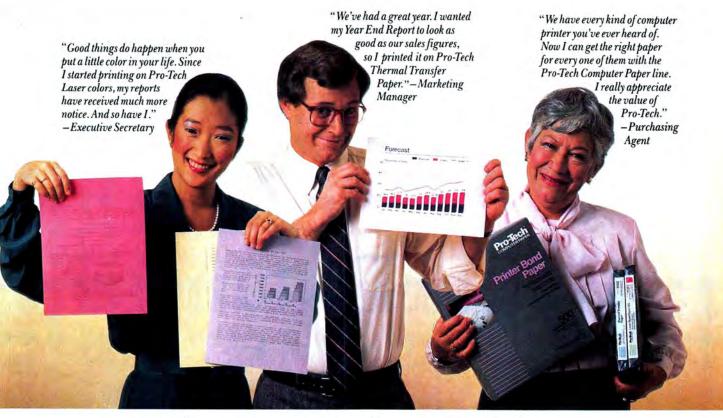
Look, for example, at the program everyone was clustering around at the Expo, and still is wherever they see it: *HyperCard*, Bill Atkinson's masterpiece. I know it's all been said

before, but HyperCard extends the Macintosh principle that the only way to make computers really useful is first of all to understand how people think and work. HyperCard's Rolodex metaphor and simple tools, enabling the generation of anything you want, sound terribly simple, but of course the point is that it is terribly simple, and therein is its glory. I suspect that HyperCard will once again revolutionize the way we use computers, not the least of all because it allows us to store and retrieve knowledge and information by association and not by indices or hierarchies.

Everyone is excited by HyperCard. The users and the Mac evangelists are excited because it is unique, and uniquely powerful; and the software developers are excited in a different sort of way, the sort of way you get excited in when you see a shark's-fin following your surfboard, because many of them believe (rightly or wrongly) that HyperCard will make the construction of so many applications so easy that more than a few will go out of business. After all, why buy a generalized make-do-andmend application when, with your free HyperCard, you can make your machine do exactly what you want right now?

So . . all was roses? No. Not quite. The blot on the Macworld Expo was the exposition organiser, a disobliging person who wishes to be known as Mitch Hall, and his staff. These people may not like the Press but why be offensive without reason? Do the sponsors really want to exclude the Press and thus languish in obscurity, or are they being ill-served by "Mitch Hall"? Perhaps he just doesn't like publicity, and having got close, by God I can see why.

MICHAEL BYWATER IS SENIOR EDITOR OF PUNCH, BRITAIN'S OLDEST SATIRICAL WEEK-LY. HE WRITES A REGULAR COLUMN FOR MACUSER UK AND HAS PONTIFICATED ABOUT TECHNOLOGY (AND A LOT OTHER WEIRD AND TWISTED THINGS) IN MOST MAJOR BRITISH NEWSPAPERS AND TELEVISION, AND IS CURRENTLY WORKING ON A MAJOR GAME WHICH HE AIN'T ALLOWED TO TALK ABOUT. HE LIVES IN LONDON WITH A LARGE COLLECTION OF DOUGLAS ADAMS' SOFTWARE AND A CAT, AND ONLY COMES OUT AFTER DARK.



Why people love their Pro-Tech Computer Paper.

Who wouldn't love a computer paper specially designed for the printer they use?

The Pro-Tech family of specialty computer papers and film provides the consistency and reliability required for superior image quality and is specifically designed for dot matrix and daisywheel, ink jet, laser and thermal transfer printers as well as pen plotters. Pro-Tech enhances your printer's performance. And your image.

The complete line includes: Laser Papers for hi-speed and desktop laser printers (in white and colors, 25% cotton and other special finishes), Ink Jet Paper, Thermal Transfer Paper, Pen Plotter Paper, Printer Papers (in bond, 25% cotton and other special finishes) and Transparency Film. You'll love them.

Pro-Tech

Because the right paper and film makes all the difference.

™.

TT			•
VOI	ITC	Fre	$\boldsymbol{\rho}$
10	$\mathbf{u}_{1}\mathbf{o}$	110	C. I

Return this coupon to: Pro-Tech Sampler Kit, c/o James River Corporation, Groveton Division, Groveton, NH 03582 or call toll-free Mon-Fri 8:00-5:00 EST...

1-800-521-5035

In MA: 413-589-7592

Name
Title
Company Phone
Address
City
State Zip
My computer printer is a (Manufacturer – Make – Model No.)



JAMES RIVER CORPORATION

GROVETON DIVISION
Groveton, NH 03582

MCU 3/88

© 1987 James River Corporation

HyperBusiness

WHEN HYPERCARD DEBUTED LAST August, part of the excitement it generated was because it opened up the Macintosh to non-programmers. And because HyperCard was being bundled with the Mac, it was widely predicted that it would quickly become a standard and spawn an industry segment producing "stack-Business Class and Focal ware." Point, written by Danny Goodman, author of The Complete HyperCard Handbook, are among the first commercial stacks to make it to market. And if they are any indication of what is to come, HyperCard might just catch on. Worthy of special note is the fact that Business Class and Focal Point are "open" stacks, meaning that you can go in and examine their scripts and inner workings, learn from them and even customize them.

THE HEAD OF THE CLASS

Business Class is the less useful of the two stacks, but if you need its capabilities, it's worth looking at.

Focal Point and

Business Class take

HyperCard to the

executive suite.

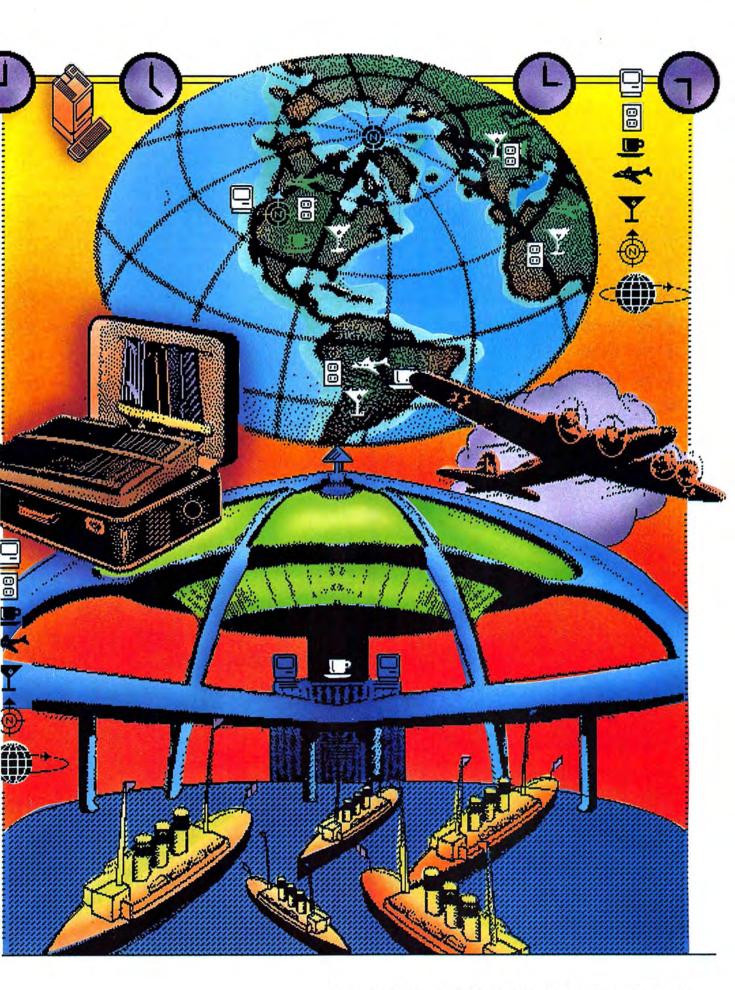
Business Class is a world travel information data base covering 65 countries on six continents and an itinerary planner for globe-trotting business executives. For each country covered, Business Class offers information about currency, including a currency converter; airport and airline information; ground transportation information (bus, taxi, trains); visa requirements and customs information; social customs, especially tipping; a list of holidays and special events; annual climate norms for major cities (temperatures given in degrees Fahrenheit, although there is a C/F converter); postage and shipping information; time zone information, including a time converter; emergency information, including hospitals, embassies, police and fire; a list of hotels with phone numbers and Telex codes; electrical and television standards information; and a telephone directory with international dialing instructions as well as space for you to add your own numbers.

GOING FIRST CLASS

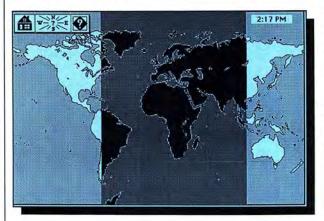
Business Class is very intuitive and easy to use. It comes with an installer which sets it up and puts a Business Class button on your HyperCard Home card. The first time you use it, it asks for some simple information to customize it, such as your time zone, the name of your town or metropolitan area, your currency and exchange rate with the dollar, and whether or not daylight-saving time is in effect. Once this information is entered, it never asks again, although you can change it if you need to.

Normally on starting up Business Class you see a map of the world,

BY ROBERT R. WIGGINS



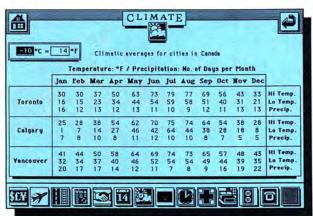
HyperBusiness



The main "menu" of Business Class is a map of the world. Clicking on a specific continent or country zooms in for a closer look. The dark band shows where in the world it is between 6 PM and 6 AM. To search for a specific city or country, click in the compass.



The inset at the upper left shows the screen that was zoomed in from. Clicking on a specific area in the inset will move to that area. Clicking on a country in the main map will zoom in on that country.



The main feature of the Climate card is the Celsius/Fahrenheit converter on the upper left. Enter the temperature you want to convert in the appropriate box and press Enter — the answer will appear in the other. Note that all temperatures in the charts are in Fahrenheit for all countries.



The Emergency card lists hospitals, embassies, police and fire information with local phone numbers which can be selected and dialed with the telephone button in the upper right.

with a dark band showing the places where it's between 6 PM and 6 AM. In the upper right is a clock showing your time, and in the upper left are icons for Home, Help and for finding a specific city or country.

To get to a country of interest, you can click on it on the world map, or click on the compass icon and then enter the name of the country or capital city you want to find. To look at Canada, for example, you click on it on the world map and Business Class zooms in to a map of northern North America. Click on Canada again and Business Class zooms in to a map of Canada, showing major cities and a row of icons representing the categories of information available. To move to a neighboring country, in this case the United States, you can just click on it on the map, or click in the inset map of North America to zoom back out to the map of northern North America. And that's all there is to using Business Class. It's simple and intuitive, and has an extensive help facility always available with a click on the question mark icon.

Business Class has a secondary function as an itinerary planner. This function is predominantly manual (i.e., you have to type in all the information), but Business Class will store it for you and print it out. You just tell Business Class your name and the dates of your trip and it creates an itinerary card for each day of the trip, with space for three airline flights and corresponding car rentals, and for one hotel reservation. When you have filled out your itinerary, you just click on the Print button and Business Class asks if you want to print all cards or just those with information entered, then you get the standard HyperCard print dialog with options like one card per page or faster LaserWriter printing.

Overall, Business Class is attractive and very well designed and executed. And there are useful small touches, such as the blank button on the country cards which can be used to add your own button, to access another HyperCard application, for instance. Unfortunately, if you're like most business travellers and most of your travel is within the United

Draw Samain, Sam.

Here's looking at . . .

Introducing "Draw It Again, Sam," The newest drawing program for Macintosh, With powerful extended features, it adds new dimensions to your Mac graphics.

If you have used MacDrawTM or Mac-DraftTM you've felt the power that a drawing program can put in your grasp. Imagine the same power brought to an even higher level, with features like libraries, layers, color, advanced text features, and a wide array of graphic display modes . . . Imagine "Draw It Again, Sam."

Libraries Were Never This Much Fun

Only "Draw It Again, Sam" lets you create your own graphics and text libraries. Create any image, simple or complex, and copy it into a library. Click on an icon-like symbol or on the image's name in a menu, and place the image anywhere on any drawing. Store and retrieve frequently used images, text, or logos, building large libraries (up to 500 images) for drafting, designing, or just for fun. No more rooting through scrapbook files, no more wrestling with the clipboard, and no more wasted time!

Create a Masterpiece —Layer by Layer

Only "Draw It Again, Sam" lets you create and use up to ten transparent drawing planes. You can group similar objects together, as an architectural blueprint or an anatomical drawing. Peel them away to reveal layer after layer of detail. Or view them all while working on only one — and avoid those accidental mouse-clicks that make doing detailed drawings such a trial. Use layers in conjunction with colors to

produce spot color separations with ease or extend a single drawing into an animated series. You can even import a drawing and work over it or behind it without touching the original. Save or print the drawing layer-by-layer or as a whole. The possibilities are endless!

Amazing Graphic Flexibility Is Yours

"Draw It Again, Sam" uses the Macintosh's drawing modes to their fullest potential. Your objects can be in opaque, inverted, clear, or erased modes. You can experiment with overlaying transparent colors and patterns, you can even extend your drawing skills beyond the basics and generate an endless set of special effects. The countless colors and shapes achieved by this program are breathtaking.

To Paint or Not to Paint

Version 2.0 of "Draw It Again, Sam" adds a full set of painting tools to the drawing



ones. Now you can combine the fine detail of bit-mapped graphics with the flexibility and ease of object-oriented drawing. And you can use both paint and drawing tools on the same layer — either side by side or overlapping. The best part is, "Draw It Again. Sam" is compatible with other paint, draw and page layout programs, allowing you to import and export art forms.

You Must Remember This...

With its comprehensive set of features and ease of use, this program is one you have to get your hands on. To find out more, or to order your copy, call 1-800-234-0230 and say, "Draw It Again, Sam."

Call or write:



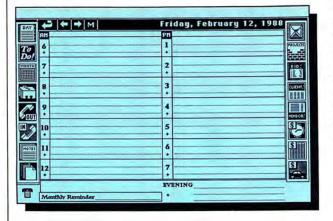
Aba SOFTWARE, Inc. P.O. Box 850, Two Davis Avenue Frazer, PA 19355-0915 1-800-234-0230

Requirements: Macintosh™ 512E, Plus, SE, or II.

Suggested Retail Price: \$150 Dealer inquiries invited.

"Draw It Again, Sam" © copyright 1987 Aba Software, Inc. all rights reserved. MacDraw. QuickDraw and the Macintosh models are registered trademarks of Apple Computers, Inc. MacDraft is a registered trademark of Innovative Data Design, Inc.

HyperBusiness



The Day card is the center of Focal Point, and Focal Point automatically opens to the current day's Day card. While only the three lines display at a glance, by clicking on the hour an additional twenty lines can be entered. The Day cards can be browsed through a day, week, month or year at a time.



There is a To Do card for each day. As items are done, you check them off. At the end of the day. clicking on the "Carry Over" button will move all unchecked items onto the next day's To Do card.

Y	€ +	→ M			FEBRUA	RY 1	88
2	SUN	MON 1	TUE 2	wed 3	тни 4	FRI 5	SAT (
	7	8	9	10	11	12	13
) ()	14	15	16	17	18	19	20
	21	22	23	24	25	26	2
L	28	29				S M T U T F S 1 5 6 7 8 4 10 11 12 13 14 15 16 17 18 18 20 21 22 23 27 25 26 27 28 24 30	E M I V I F 1 2 3 N 6 7 8 9 10 11 12 19 15 16 17 18 20 21 22 23 29 21

The Month card is a monthly calendar. On each day there is a twoline area for brief notes. Clicking on a date will take you to the Day card for that date.

States or repeated trips to one countravellers; for world travellers, the try which you already know fairly current version should do fine. well, you'll have little use for Business Class other than as an itinerary planner, which can be used for domestic travel. If you do visit strange ited by its being a one-note song, Focountries from time to time, though, cal Point is the Swiss Army Knife of this is an excellent tool to help you business productivity software. For plan your trips. If there were a Unit- business users of the Macintosh who ed States version for domestic travel- spend their days at their desks, Focal lers as well, Business Class would be Point may be one of the only applicauseful to a broader range of business tions they need. It's an appointment

GETTING TO THE POINT

While Business Class' utility is lim-

book, to-do list, monthly calendar, phone and address book and dialer, phone log, notepad, document launcher (for those times you need another application), deadline tracker, project management system, proposal and bid tracker, client data base, client meeting tracker, vendor data base, vendor meeting tracker, expense tracking system (including automobile expenses) and time sheet system. Each of these functions is provided by a separate stack, and the stacks are logically linked for simple navigation from one to another.

Focal Point's main shortcoming is that while it provides all of these functions at the desk, many people find they need some or all of these functions when away from the office. Focal Point can print out its cards of information, but any changes made away from the office will have to be reentered back at the desk, and it is not very practical to print out the entire phone directory, even four cards to a page. So for salesmen and other field-oriented types, the old familiar DayTimer may be more useful. But for desk jockeys and managers, Focal Point can replace a lot of scraps of paper and notepads.

FOCUSING YOUR ENERGY

Like Business Class, Focal Point is fairly intuitive and easy to use, although because of all the links between the different applications and the sheer number of functions, it may take some time to get used to. Also like Business Class, Focal Point comes with an Installer stack that performs some set-up functions and places a Focal Point button on your Home card. Once in Focal Point, the available functions are buttons down the left side (and sometimes the right side) of each card. Because there are more Focal Point applications than there are buttons, Focal Point comes with a button customizer as part of its help facility so you can choose which applications are in which buttons.

Focal Point can be overwhelming at first, due to all its options. If you've been using the Address and Datebook stacks that come with HyperCard, you should easily adapt to Focal Point's Daily, To Do, Monthly

Traphic Artists....Creative Geniuses... and Aspiring Artists...

A \$10,000 Mac II Package!

Announcing the"Draw It Again, Sam Graphic Arts Čontest

If you've been waiting for your big break in graphics your time has finally come, thanks to Aba Software, the creators of "Draw It Again, Sam.

It's the only drawing program that gives you up to 10 layered drawing planes, limitless text and art libraries, drawing modes, and full paint capabilities. There's no other drawing program like it.

To enter, just take your copy of "Draw It Again, Sam," demonstrate its features the best way you can, and let your imagination go!

CATEGORIES

Submit your work of amateur or professional "graphic excellence" in any of the following categories: Commercial Art, Technical Art, and Fine Art.

PRIZES

Grand Prize

The best overall work will receive an Apple Macintosh II computer featuring a 40 megabyte hard disk, color monitor, two megabyte RAM, retail value over \$10,000!

First Prizes

The best work from each of our three categories will be awarded an Apple Macintosh SE computer featuring a 20 megabyte hard disk, retail value over \$3,500!

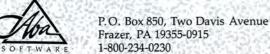
Best Amateur Artwork Prize

The best amateur work will be awarded the first prize Macintosh SE package outlined above.

Honorable Mentions

Bask in the limelight! Twelve runners up, selected from all categories, will have their work published, along with the other winners in the August '88 issue of a national "Mac" magazine.

For more information, call or write:







RULES

All artwork must be produced with Again, Sam' software. Entries are category. All artwork becomes Inc. and contestants give up with its unlimited

limited to one per person, per the sole property of Aba Software, ive up all rights and claims in connection use. All finished artwork must be received by May 7, 1988. Entries will be reviewed by a panel of judges made up of all rights and claims in connection industry leaders and artists. A complete list of winners' names will be available from Aba Software, Inc. Winners will be notified in writing by June 15, 1988

a registered copy of "Draw It

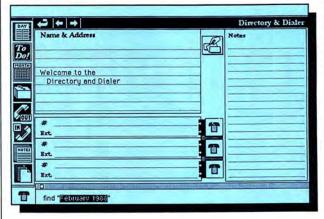
Employees and Associates of Aba Software, Inc. and their families are not eligible for this contest. Entries must be submitted on disk and in hard copy form.

ENTERTODAY

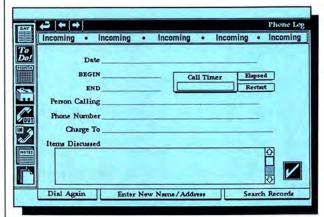
	nue, Frazer, PA 1935	nc., P.O. Box 55-0915
Name		
Address		Apt #
City	State	Zip
Home Phone		
Business Phone		Ext
Category of entry:	☐ Amateur ☐	Professional
☐ Commercial Art	☐ Technical Art	☐ Fine Art
Title Of Work (s)		
I fully understand th property of Aba Sof rights and claims in o	tware, Inc. and that	I relinquish all
Signature		Date

"Draw It Again, Sam . . ." © copyright 1987 Aba Software, Inc. All rights reserved. Macintosh II and SE are trademarks of Apple Computers, Inc.

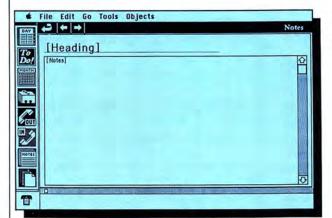
HyperBusiness



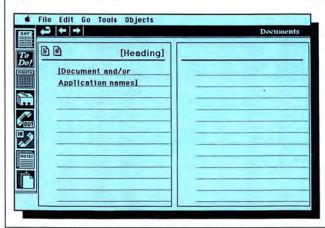
Focal Point's Directory stack is a souped-up version of the Address stack that comes with HyperCard. Up to three numbers can be listed for each entry, and you can make notes about the person or company. When you dial, a new card is created in the Outgoing Phone Log stack.



The Incoming Phone Log works similarly to the Outgoing, although you must fill in more of the information. You can even create a Directory card for the caller.



The Notes cards are for free-form notes. Each card has its own heading and room for plenty of notes.



The Documents cards let you install applications and documents so you can launch them from Focal Point and move to MacWrite, for example, then return.

and Directory stacks. As part of Focal Point's Help stack, in fact, there's a button that will automatically import any entries you have in Hyper-Card's Address stack into Focal Point's Directory stack, and it's fascinating to watch it in action.

The stacks comprising Focal Point are all linked, sometimes in interesting ways. For example, when you use the Directory stack to dial a phone number, Focal Point automatically creates a card in the Outgoing Phone Log stack with the current date and time and the number dialed. There is a call timer and a notepad for entering the items discussed. The Incoming Phone Log lets you create a new Directory entry for the caller at the touch of a button.

The data base functions of Focal Point are useful whether you run a small business or work for a big business. The Client Records and Vendor Records stacks are each linked with their respective Meeting stacks, and are both linked with the Projects stack and the Proposals and Bids stack. Project Records are made up of a Project Summary card, a Project Specifications card, the Labor Worksheet, the Materials Worksheet, a Follow-Up Tasks card, and the Invoices and Payments card. The Deadlines stack gives a summary of all the follow-up dates in the proposal and project records. For small projects where a separate project management system is overkill, Focal Point offers similar tracking capabilities without all the bells and whistles (it doesn't draw PERT charts, for example).

Of special interest to the business user is the detailed expense tracking system that is part of Focal Point. The Weekly Expense Summary is a minispreadsheet summarizing the information entered in Daily Expense Detail and Entertainment Expense Detail cards. There is also an Automobile Expense stack, but it is unfortunately not linked with the other expense stacks, so if your company is one that puts auto expenses on normal weekly expense sheets, you'll have to transfer the information yourself. This is the only drawback to an otherwise excellent expense track-

ing function.

BOOK LEARNING

Business Class comes with a brief but thorough 48-page manual, and a small, easy-to-use Help stack. In fact, Business Class is so intuitive that almost half the manual is dedicated to setting it up, installing it on hard disks and a general overview.

Focal Point, since it is more complex than Business Class, comes with a more comprehensive 146-page manual which covers all of the major functions of the programs and has an extensive reference section. Focal Point also comes with a much larger and more powerful Help stack, which offers some major assistance such as the Address stack import function and the button customization feature described earlier.

GETTING HELP

Activision offers telephone support for both products, and the stacks' author, Danny Goodman, is a frequent visitor to online circles such as CompuServe's MAUG, and can offer his assistance for more thorny problems. The fact that the stacks are all open for inspection and modification may make future updating of the products easier as well.

THE BOTTOM LINE

Business Class is a fascinating piece of work, with attractive artwork, a simple intuitive interface and a large amount of data pleasingly presented. Only the absence of a U.S. domestic version keeps it from being universally required by the business traveller. For globe-trotting executives, Business Class is a must.

Focal Point is a masterpiece. Danny Goodman has said that it is something he always wanted to develop but that he could never find the proper vehicle to allow him the freeform linkages necessary. He found the vehicle he's been searching for in HyperCard, and has done an outstanding job implementing his vision. He also had excellent assistance from Bill Atkinson and Dan Winkler, the fathers of HyperCard and HyperTalk, which certainly didn't hurt. If you run your business from your desk, Focal Point is a can'tmiss proposition. It's only people who spend their days out in the field,

like salesmen, who won't get full use out of it, and even they will find its record-keeping functions such as expense tracking and client data bases useful for those times they are back in the office. Consultants, lawyers and anyone else on an hourly billing basis will be able to get maximum use out of Focal Point with all its time tracking features. Even if all you need is a phone directory and calendar, Focal Point is worth the money.

ROBERT WIGGINS IS MACUSER'S CONTRIBUT-ING BUSINESS EDITOR AND THE EDITOR AND PUBLISHER OF THE MACINTOSH BUSINESS LETTER.

MACUSER **Business Class**

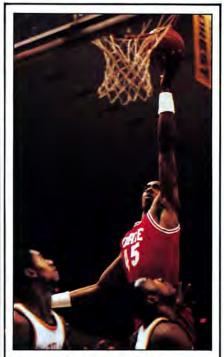
Follows Mac Interface Printed Documentation On-Screen Help Performance пп Support Consumer Value

Comments: World travel information and itinerary planning at the click of a mouse. Best Feature: Intuitive and attractive interface using maps to locate countries of interest. Worst Feature: Lack of United States domestic travel information makes it useful only for frequent world travellers. List Price: \$49.95. Published by Activision, 2350 Bayshore Parkway, Mountain View, CA 94043. (415) 960-0410. Macintosh Plus with at least one megabyte of memory and HyperCard required. Not copy protected.

MACUSER TING Focal Point tttt1/2

Follows Mac Interface Printed Documentation On-Screen Help Performance Support Consumer Value

Comments: Complete office system in a set of interrelated HyperCard applications. Best Feature: The use of Hyper-Card's linking ability to automatically transfer information between applications. Worst Feature: Limited output capability (actually a HyperCard shortcoming). List Price: \$99.95. Published by Activision, 2350 Bayshore Parkway, Mountain View, CA 94043, (415) 960-0410. Macintosh Plus with at least 1 megabyte of memory and HyperCard required. Not copy protected.



You call the shots with **Basketball**

Not only can you call the shots, but you can also set the offense, select the defensive set, determine the tempo for the game, and make substitutions in this real time, five-on-five college basketball simulation game from XOR Corporation.

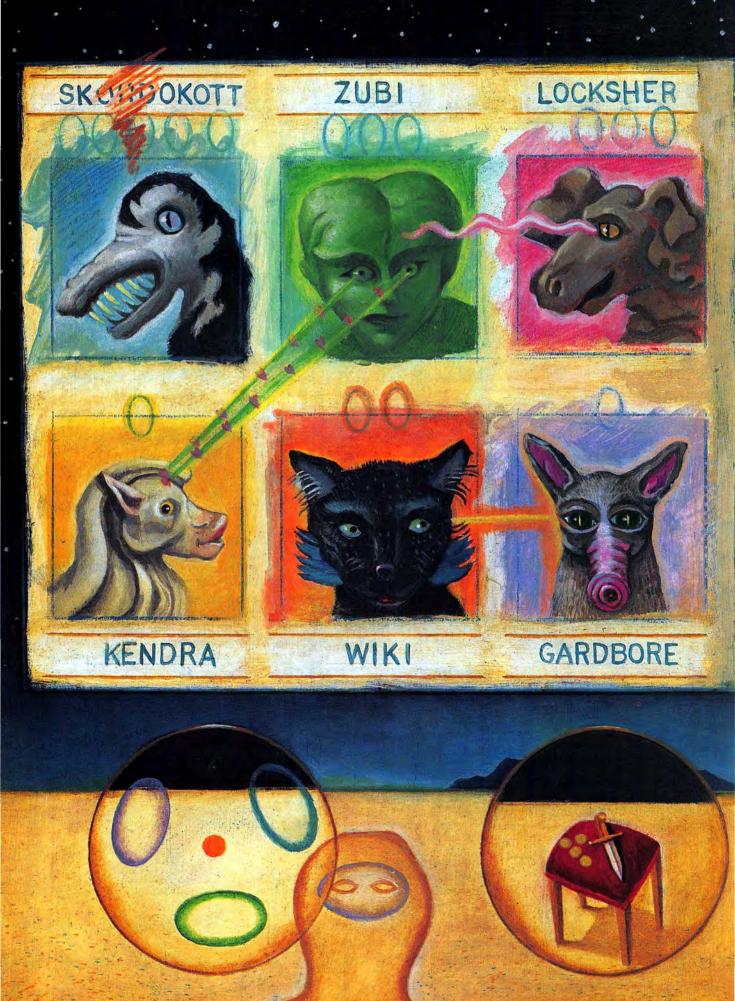
Select from 20 teams, add your coaching ability, and see how many victories you can chalk up in your win column. Operating on the IBM PC. PC-XT, PC-AT, and their compatibles as well as the Apple Macintosh, Basketball Challenge puts you at the heart of the action with the pressures and tensions of real life coaching situations.

Pick up your copy of Basketball Challenge at your local computer store today. Or call 1-800-635-2425 TOLL FREE. And be sure to check out NFL Challenge[®] PRO Challenge[™] Oligopoly[™] and Bermuda Square, examples of some other First Class Software from XOR.



(612) 938-0005

Please circle 230 on reader service card.



Move Over Machiavelli

Trust & Betrayal: The

Legacy of Siboot takes

place in a

Machiavellian world

where nice guys finesse

last.

BORED WITH THE COMPUTER GAMES? Tired of firing missiles and particle-beam weapons at the same old alien spacecraft? Wandered in musty mansions collecting goodies for so long that you can fight off every monster ever dreamed up? Gobbled your way through so many mazes and chased gorillas up so many ladders that your hand traces the patterns in your sleep? Flown so many simulators that the only challenge left would be pushing the mouse around with your nose?

If so, it's time to check out Chris Crawford's Trust and Betrayal: The Legacy of Siboot, a game so different in style and play that it's impossible to compare it to any existing computer game. Rather than testing your skill as a trigger-happy marksman, or your ability to solve obscure logical puzzles, Trust & Betrayal pushes

you to your limits in that most basic of human skills — political intrigue. When you enter the world of *Siboot*, you'd better be equipped with Freud, Machiavelli and some good old down-home "people sense."

TRUST BUSTING

The game is built around an elaborate science fiction mythology, romantically detailed by Crawford in a novella that accompanies the game. Many years ago, the Seven Species of the planet Lamina decided to colonize their moon, Kira, a barren ball of rock barely capable of supporting life. Idealistic young representatives of each species were sent off to Kira in a spaceship and it was hoped that they could learn to live together in peace (a goal that had escaped the uneasy home planet).

Shortly after the colony was established, a nasty diplomatic incident triggered a limited nuclear war back on Lamina, and the colony was cut off. There was a brief period of rioting on Kira, but the handful of colonists soon coalesced under a makeshift government led by a creature named Siboot (pronounced "seaboot").

Siboot's great gift to the colonists was the discovery of a primitive form of telepathic speech that could cut through the barriers of language that had divided the ill-fated Laminans. He called the language "eeyal," and the colonists quickly set about devel-

oping their mental skills as they struggled to scrape out an existence in the desolate Kiran environment.

When Siboot died, he left behind a structure for a type of democratic monarchy. The new leader was to be the most fluent speaker of eeyal in the community, chosen by a process of mental combat among the strongest eeyal speakers of each of the seven species. That way, the most gifted speaker would be sure to lead the colony and inter-species hostilities would be kept to a minimum as each species would have a fair shot at the crown.

So much for history. The game opens several generations after Siboot's time. The most recent leader has just gone to the Great Beyond and the seven acolytes, one from each species, are preparing to slug it out — mentally — for the top job. You're Vetvel, one of the contestants, a young Jomkar who looks like a fur-bearing pagoda with ears. You're up against six fierce competitors: Skordokott, a serious, pragmatic, alligator-like Tayran; Wiki, a feline Ripi with a taste for practical jokes; Kendra, a fickle and imperious young Klast woman with a horse face; curmudgeonly Gardbore, a middle-aged Frem who looks like a cross between a dog and a lizard; Zubi, a pleasant humanoid Srol who loves everybody; and Locksher the Lockweel with his pleasant demeanor and a head rather like a camel's.

BY EZRA SHAPIRO

Move Over Machiavelli

The combat is a kind of scissorspaper-stone game, only you play with mental auras called tanaga, katsin and shial. The three auras have a circular order of precedence - tanaga beats katsin, and katsin beats shial, but shial beats tanaga. Every night your spirit soars off to the Land of the Auras. You choose an aura with which to attack another contestant; if your choice is ranked higher, you win one of the lower-ranked auras. The winning player must wind up with exactly eight of each aura, and each player starts out with different deficiencies. The goal is to make up your missing auras, one by one, until you have a perfect set. The game ends when that occurs.

If the combat were simply a matter of playing scissors-paper-stone, Trust & Betrayal would be merely a computerized bore. However, the real meat of the game occurs during the daylight hours between combats.

ANOTHER DAY, ANOTHER AURA

Game

Every morning, you wake up knowing one aura count for each of the other players. Your mission is to find out as many of the aura counts

Options

Back

Space

Characters

11:03 AM

Day 1

that you don't know as you can. You do that by trading information with the others. In that sense, Trust & Betrayal is a negotiating game. If you want to learn Zubi's shial count, and Skordokott needs the data you have about Kendra's tanaga count, the two of you can hatch a deal. But each character has a distinct personality, some of which is based on interaction with you before the game begins, but much of which is shaped by the way you play.

Here's how it works. Let's say you need information about Wiki and Locksher to help you decide which to attack that evening. Gardbore is the only player who knows the answers, and he has questions of his own about Skordokott and Kendra. The deal would be a natural, but Gardbore neither likes you nor trusts you. He's learned that you've betrayed his confidences in the past, and he's hopping mad. How do you negotiate the trade?

You could flatter him, which would increase his distrust. You could try to cow him into dealing by threatening him, but he's no sissy and he might just laugh at you. Or

you could try to cultivate the relationship, offering a little flattery to build up his ego, and perhaps increasing his trust by promising neither to attack nor betray him. But should you go back on your promise of non-betrayal, and use information about Gardbore to find out something else, you're risking a lot. Should Gardbore learn of that betrayal, he might never tell you anything again. And losing that one item of information that Gardbore won't tell you at a critical moment could put you in a deep hole.

Each of the combatants has different needs, different friends and a different view of Vetvel. And they react in conversation according to their personalities. For example, flattery is not particularly effective with flinty old Gardbore, who's suspicious of unwarranted compliments. Zubi is young and impressionable; insincere flattery will not only increase her affection for you but lure her into trusting you. Flighty Kendra might listen to your blandishments, tell you she loves you madly, then slam the door in your face before you've gotten anything out of her.

And you have to remember that you're not the only player in this game; the other characters are going for the same goal. All of them are out there, talking to each other, making and breaking deals and changing their opinions behind your back. If your best friend Skordokott can win the game by breaking a long-standing oath to you, he'll do it. And if you, loyally, refuse to desecrate your promise to Skordokott when someone else offers you precious data, you may find that your fidelity has cost you the game.

So Trust & Betrayal is a game of strategy on several levels. You have to be sharp at interpreting the personalities and the prejudices of your computerized antagonists. You must be able to assess the tactical costs of, well, trust and betrayal. And you have to be a steel-nerved gambler capable of choosing the right weap-on when you get down to combat.

The basic playing field of *Trust & Betrayal: The Legacy of Siboot.* This screen shows a conversation between Vetvel and Gardbore. The bar on the left side displays icons that you can click to build primitive sentences in eeyal. The region at top center displays status information: time of day and where you are (Gardbore's house, talking to Gardbore). The panel immediately below it displays Gardbore's emotional state. The bar graphs assess his level of fear, trust and love for you. As all the graphs show low totals, it's obvious that Gardbore regards you as insignificant, slimy and unpleasant. The stylized face represents Gardbore's facial expression, and serves as another clue to his mood. The two panels on the right side of the display are for eeyal sentences; the top for you, the bottom for the other guy. You've just finished making a deal; Gardbore has given you some information.

Recall Today

day and capable of choosing displays on when you get down leasant. PARLEZ-VOUS EEYAL?

Trust & Betrayal is played in eeyal, Kira's telepathic language.



Hard Disk:

3" tall, 8 lb., SCSI-compatible, 65 ms access time.



Hard Disk:

3" tall, 8 lb., SCSI-compatible. 28ms access time.



removable:

5" tall, 13 lb., Resists head crashes, 28ms acc. time/ hard disk, 40ms acc. time/ Bernoulli, 20MB cartridge included.



Totem II Single 20MB removable:

8 lbs., SCSI-compatible, Resists head crashes, 40ms access time, 20MB cartridge included.



removable:

Complete storage/backup unit, Resists head crashes, SCSI-compatible, 40ms acc. time, 20MB cartridge included.

'lakea neverr

The people at Bering are dedicated to ensuring all Macintosh users that innovation, high quality and low prices can be a reality.

Our popular Totem™ removable Bernoulli disk drives let you use high capacity, high performance, long-lasting, 51/4" cartridges that store a full 20MB of data. These sturdy cartridges use advanced aerodynamics that guarantee high speed and resist head crashes. Our Totem Bernoulli drives come in single or dual units, or, can be combined with a hard disk for a complete backup and storage system. We even offer a whole line of our popular Totem hard disk drives in storage

capacities from 20MB up to 140MB. And, all our Totem drives are 100% compatible with Mac Plus, SE, and Mac II.

30-Day money back guarantee.

Totem drives come complete with a one-year warranty, plus a full, 30-day money back guarantee. So if you've been thinking about a Totem drive, here's your chance to try one out. We promise you won't regret it.

Full technical support guaranteed for all drives. All Totem drive orders receive a SCSI cable, terminator, system cable, power cord and Totem Backup and Restore software. Totem removable Bernoulli drive orders receive a head cleaning kit and one 20MB cartridge. Product specs and prices are subject to change. Prices do not include shipping, CA sales tax (7%) or rush handling. Totem and Totem II are trademarks of Bering Industries, Inc. Macintosh, Mac Play Adva II, and May SF are trademarks of Apple Computer. Mac Plus, Mac II, and Mac SE are trademarks of Apple Computer.

Please circle 7 on reader service card.

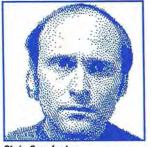




VISA and MasterCard welcome.

To order your drive call 800-237

Move Over Machiavelli







Gardbore



Kendra



Locksher

Even after years of study, it's still rather unsophisticated, consisting of a limited number of nouns, verbs and modifiers. The syntax is also quite simplistic. If you wanted to ask Skordokott if anyone had snitched on you, "Vetvel ask Skordokott who

betray Vetvel," would be eloquent phrasing in eeyal. As such, eeyal is easily depicted with icons on a Macintosh screen (what a surprise!).

The game is divided into days and nights. You wander around the tiny Kiran community, visiting the other

> This is how a dialog works in eeyal, the telepathic language central to Trust & Betrayal: You go to visit Skordokott. He's your friend, so you greet him warmly. He's nice, but a bit more reserved in his greeting to you. You ask him if anyone has betrayed you; he replies that nobody has. You offer to trade information: You'll tell him about Gardbore's shial count if he reveals Kendra's tanaga count. Skordokott rejects your deal.

competitors and chatting with them in eeyal during the daylight hours. Each conversation takes a measurable amount of time, shown in an on-screen status box, and you'll have to move quickly if you want to visit any of the six other players more than once each. As some negotiations can become protracted (if, say, you're trying to charm a reluctant character into betraying a friend), watching the time is a critical element in playing the game.

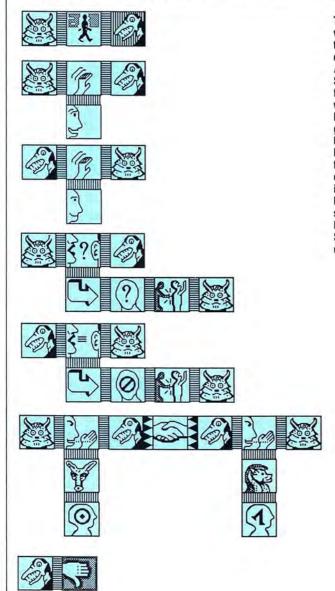
In every situation, Trust & Betrayal presents you with a selection of appropriate icons from which to choose. You have greeting icons, reaction icons, deal-making icons and icons for each of the characters. Holding the mouse button down when you select an icon shows the translation for it, usually no more than one or two words. There's no dragging; Trust & Betrayal builds sentences for you as you click icons. When a sentence is complete, you can click a button labeled "do it," another to cancel the whole sentence or a third to backspace over the last icon you chose. As an aid in your linguistic studies, you can opt to have Trust & Betrayal provide a translation window, which displays full sentences in grammatical English; after a few hours, you'll find

OH. PROMISE ME

off.

There are three important types of status screens available from pull-down menus. The first gives you the status of all the characters — a chart shows you where each character is at the moment and another displays what you know about the characters' aura counts. The second screen is called "Recall Today." It keeps track

eeyal easy enough that you'll turn it





The keyboard enhancer for your Macintosh

For: Macintosh 512E, Plus, SE and II. Works with all keyboards, especially extended keyboards.

- We don't call QuicKeys a macro... because you told us macro programs are complicated. You told us they are hard to learn and unreliable. We agreed, so we wrote QuicKeys.
 - How fast can you learn to use QuicKeys? How fast did you read this sentence?
 - QuicKeys is a snap to set up. Drag it into the system folder... select an action from the menu... Bingo! You're creating QuicKeys. press a key and...
- Virtually anything you can do with your mouse and keyboard is done with a keystroke in QuicKeys. It even prints keyboard templates! *** MacUser-Jan. '88 Just \$99.95



Ⅲ CalendarMaker™

Presentation quality calendars

- "If you use calendars, you need CalendarMaker" Nibble Mac, October 1987

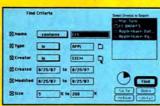


- "Every year I have the same problem: finding the ideal calendar. In answer to this universal dilemma CE Software has published CalendarMaker." MacWorld, March, 1987
- ### MacUser-Dec. '86
- Enter events manually or import from programs including: MORE!™, SideKick™, BatteryPak™, SmartAlarms™. Export calendars to MacWrite, MacPaint, MacDraw, PageMaker and others...Just \$49.95



A portable finder.

"DiskTop may well be the best desk accessory I've ever owned; I use it more than any other...this may be the best value in Macintosh software today. The MACazine, November, 1987



- \$\$\$\$* MacUser-Aug. '87
- With DiskTop you can find, copy, move rename, create folders, and more without ever leaving the document you're working in.
- DiskTop contains the most powerful yet easy to use "Find" command available on the Macintosh. Hard drive users love it. Just \$49.95

Please circle 38 on reader service card.



Visit your retailer or call (800) 5-CESOFT for VISA or MasterCard orders visity of unrelated or call (600) 5-0:5011 for Vision or MasterCard orders.

To purchase by mail send VISA or MasterCard number with expiration date, check or money order with appropriate amount plus \$2.00 shipping and handling for each product ordered to CE Software, P.O. Box 65580, West Des Moines, Iowa 50265 nation call (515) 224-1995

Move Over Machiavelli









Skordokott

of whom you've betrayed, who's betraved you and any promises made either by you or to you. The third kind of screen gives you a full analysis of each character. It shows a portrait and a descriptive paragraph. When you first start playing, these screens seem unimportant, but they contain vital information that can get lost in text. The last few lines of the prose paragraph detail the character's relationships with you and other characters. These change over the course of the game, and provide your only clue to agreements to which you're not a party. If Zubi's view of Locksher changes from love to dislike, you can bet that Locksher has betrayed her and she's far more likely to betray him in return.

A key component of the basic game screen could best be called a personality box." When you're chatting with one of your opponents, it shows a stylized facial expression and three bar graphs. The expression is based on human features, rather than the extraterrestrial ones owned by the Kirans. The bar graphs, marked with the symbols for tanaga, katsin and shial, indicate fear, trust and love, respectively. These bars change perceptibly as you converse; you know that a character's attitude toward you is changing, for better or worse, as you speak.

NIGHT GAMES

The icon-oriented format continues in the night game, but it's much

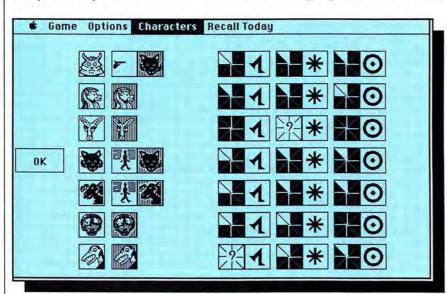
simpler. You choose a victim for your attack, and the aura you wish to use, and that's it. The game shows you your victim's choice, and indicates whether you've won or lost. Sometimes a character will choose to attack you, in which case you'll be shown what you know about that person's aura counts as well as your own counts. Again, you choose your weapon and watch the outcome.

Trust & Betraval offers three levels and three lengths of play. Of the easy, medium and hard levels, the only one with any real challenge is the hard level, where your opponents apply what they know about you in choosing the auras they'll use to defend themselves or attack you. Neither the easy nor the medium level gives them a fighting chance; they're in the dark about your auras. Those two levels are differentiated by the sophistication of the personalities. On the easy level, you can assume you're dealing with drooling morons; up the ladder, you start noticing subtleties.

HOW LONG, O LORD?

Length of game is absolutely straightforward. At the short length, all characters are missing only two auras. At medium, they're missing four and at long, six. Chris Crawford sees the long, hard game as the truest version of Trust & Betrayal, with the others being training exercises for it, but it's possible to enjoy a rousing game at the medium length, hard

In my experience, the short hard game is over too quickly to develop any real texture. The medium length generally runs me from 11/2 to 3 hours. And I once played the long, hard game for an 8-hour stretch before achieving final resolution, but



When you start the day, you know one piece of information about each of the other characters. By the end of the day, you should have learned as much as you can by trading your knowledge. In the second screen shot, only two aura counts are still unknown. As you promised not to attack Skordokott, the missing count for him is irrelevant. And you can deduce the missing number for Gardbore — this is the first turn of a medium-length game, in which all characters start out lacking four auras. As Gardbore has a full count in both tanaga and shial, obviously he's four short in katsin. You can go home and relax before the evening's combat; more dealing is unnecessary.



MacTilt SE®

The Mac SE sitting on the desk leaves the screen too low for comfortable operation. MacTilt SE elevates the Mac 4" and provides 30° tilt and 360° rotation for better viewing and greater operator comfort. \$89.95



The Muzzle

The Muzzle protects your confidential files, documents, and other sensitive data. A locking bracket effectively prevents the Mac SE from being powered up, eliminating access to any data on the hard disk. The entire Muzzle can also be secured to a desk or workstation with a cable or chain to physically secure the Mac in place.

Muzzle \$49.95

MacTilt SE/Muzzle \$129.95



Pedestal Base for Large Screen Display

The same outstanding features and user benefits of the MacTilt are now available for your Large Screen Display, Commercial CRT, Personal or Portable Computer, or Graphics Monitor. Enjoy a better viewing angle and reduced eye, neck, and back strain. Call for specific models. \$89-95-\$99-95



Mac II Workstation

Everyone who needs the power of the Mac II also needs the space that the Monitor and Processor occupy. If there is no desk space to organize work and lay out projects, the Mac II's effectiveness is limited. The new Mac II Workstation takes a totally new approach to workstation ergonomics. This free standing workstation sits alongside your desk and provides a unique arm suspension system and shelf area giving the operator the ultimate in adjustability and space savings. \$499-95

ERGOTRON[®] ACCESSORIES

Call your Dealer or Distributor

1621 E. 79th Street • Minneapolis, MN 55420

(612) 854-9116 • 800-328-9839



MacBuffer LW®

MacBuffer LW increases office productivity by eliminating the need to wait for the LaserWriter. This means that every operator on the network can send MacBuffer LW their print jobs and get back to work. MacBuffer LW can handle unlimited Macs and LaserWriters, provides for full queue management, and is totally transparent to operators. Available in 1,2,3, and 4 Meg models. Call for pricing.



MacTilt[®]

With a silky-smooth, one hand motion, your Macintosh can be adjusted to relieve operator stress, ease neck, back, and eye strain, and increase productivity. The MacTilt elevates the Mac 4", and provides 30° tilt and 360° rotation at the touch of a finger. \$89.95



Mouse Cleaner 360°

By regularly cleaning your Mouse, you can eliminate sluggish operation and expensive repair bills. By removing the grime from the tracking rollers, free cursor movement is quickly restored. Compatible with IBM, Apple, Atari, Amiga, Microsoft Mouse, and others. \$16.95



MacBuffer

If you are an Imagewriter user, MacBuffer will automatically reduce the time the Macintosh spends waiting for the printer. In addition to less time spent waiting, MacBuffer enables two Macs to share one printer and has Local Copy and Single Sheet Mode. Get the most out of your Imagewriter I or II with MacBuffer. Call for pricing.

Premium Quality Gifts In Every Price Range



Output on paper or directly on transparencies with the fabulous Pan-Chroma 200 dpi color printer (\$4,500.00). Output to video (NTSC or PAL) with our TV Producer general purpose genlock card (\$599.00)

Order Toll Free or from your

nearest Apple Dealer. 1-800-547-3303 **mputer**

14250 NW Science Park Dr. Portland OR 97229 tel. (503)626-2291 fax (503)643-5379 Send \$5.00 for Modern Artist demo disk and sample PanChroma prints

Please circle 200 on reader service card.

Move Over Machiavelli



Tanaga

most of my games at that level have averaged between 3 and 4 hours.

OY, OY

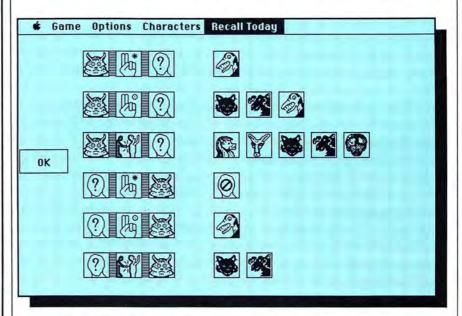
There is no question that Trust & Betrayal is the work of a mad genius. Chris Crawford's personality and spirit pervade every element of the game. In fact, Chris himself shows up every so often as you play, in the role of deus ex machina. As a result, your enjoyment of Trust & Betrayal depends to a large degree on whether you buy Chris' view of the universe. If you can swallow the convoluted story line without asking too many questions, and if you enjoy psychology, rhetoric and conversation, you'll love the game.

If, on the other hand, you've got a

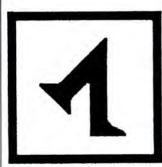


Katsin

brain that demands a solid logical explanation for every nuance of game play, you'll be irritated beyond belief. [Editor's Note: And if you have that kind of brain, you probably don't play many computer games, anyway.] The underlying structure does not bear close scrutiny; it starts breaking down after only a little poking. Your character, Vetvel, is a translator who knows all seven languages of Kira. Why does Vetvel make deals in eeyal? Wouldn't it be more comforting if Vetvel spoke to each contestant in his or her native tongue? And why, if the goal of the peace-loving Kirans is to choose the best eeval speaker, does this competition concentrate on political skills and double-crossing rather than eeval?



My, my! You've been busy. This 'Recall Today" screen helps you keep track of your activities. After a full day of dealing, you've promised not to betray Skordokott, and not to attack Skordokott, Wiki and Locksher. Sure enough, you've managed to betray every character in the game except Skordokott. The only pledge you've received is a trivial promise from Skordokott not to attack you, and two of your friends, Wiki and Locksher, have stabbed you in the back. Could it be that the ease with which you rat on other characters is costing you their help?



Shial

Wouldn't they prefer an unflinchingly honest, wise ruler to one who can backstab in cold calculation? I can come up with dozens of questions that attack the fabric of the fantasy that drives Trust & Betrayal.

I'll admit that I've gone through four phases in my reaction to the game. I was terribly excited when I ripped open the package; I like Chris personally, and his games hold out intellectual challenge far more enticing than any others for me. But as I began to play, I was struck with the weight of the superstructure behind the game. "This is hogwash," I thought. "Couldn't we give up the weird names, the sci-fi novella and all this nonsense about Kiran theology, philosophy and history?"

But as I played longer, I started to become mesmerized. The mental baggage of the conceit wasn't as burdensome as it had been a few days before. These alien characters these people - were my friends. Skordokott became my buddy; I cared about him. I hated myself every time I betrayed sweet, trusting Zubi. I yearned for the day when Gardbore would tell me he liked me. Chris Crawford drew me into the web of Siboot even though I wanted to resist it. In spite of flaws, oddities and an idyllic view of Kira that could turn the strongest stomach, the game worked.

After playing the game constantly for about a month, I'm beginning to taper off, but that may have more to do with my perfectly normal need for variety rather than the game. I'm also developing tender spots on my mouse hand from constantly repeating the same motions to build my eeval sentences. But, as one might say in eeyal, "Ezra like game. Ezra no bored. Ezra happy.'

Suitcase Abacus Alarm Clock Analog Clock ApplFont ASLTalk Backdrop Base Tool BCS*Clicker Big Ben Calculator+ Calendar CalendarBook Camera Charger Chooser Comments **Control Panel** Cube DAFont Diskinfo DiskTools 11 DiskTop Display Message Explorer **File Tools** FileInfo FileStar Find File Fix Pic FreeMem **Fun House Function Keus** Gone Fishin' Grep-Wc Guidance **HDMount HDUalet** Hex Calc JumpStart Log Key Caps KeuMouse Laser Envelope LaserStatus LifeSauer LockOUT Mac's Headroom Mac Clock MacDialer MacTerm Magnify MathTupe MCS Editor+ McSink Memory Memory Monitor Mini Sci Calc MINIMIRITER MackWrite Moire Idle **Mouse Print** Notepad NotePad+ ParmBlaster Phone Pad Poly Idle Print Text PS Printer QOD Editor 080 Filer QDial QuickSheets RasNIH Raus ReadiPrinter ReadMacWrite **BPN Calculator**

Saujor

Sci Calculator

Area Code Lookup Magnifying Glass



Free at last

The liberation of fonts and desk accessories is now at hand. Suitcase™ allows unlimited access to fonts and DAs—and they don't have to be installed in your System file.

Imagine having fifty or more of your favorite DAs in your Apple menu. Or, if you're involved in desktop publishing, how about three hundred or more fonts at the ready?

Having unlimited access to every font and DA means always having the right tool at your disposal.

Now that's freedom.



Compatible with MultiFinder, Suggested retail price \$59.95. Order from your favorite software or call (800) 443-0100, ext. 451. This number is for credit card orders only \$3.50 shipping/handling charge per order.

The desk accessory (DA) and font names above, some of which are trademarks owned by parties not affiliated with Software Supply, are illustrative of usage only and do not imply that the DAs or fonts themselves are part of the Suitcase" product.



Camelot Cairo Condy Carta Cartoon Cavanaugh Centura Century Old Style Cheltenham Chicago Circus Cirth Clinton Cooper Black Coptic Courier Coventru Cream Cursive Dali Demographics Demotic Eluish Eon Epsilon Fancy Caps Fargo Finneu Fletcher Franklin Gothic Galliard Garamond Gatsby Light Geneva Glypha Goudy Old Style Hamburg Helpetica **Helvetica Light** Hollywood Houston Korinna LED Letter Gothic London Los Angeles Lubalin Graph Melior Memphis Micro Laser Micro Extended Mobile Monaco Montereu New Baskerville New Century Schibk New York News Gothic NY Nights Optima Orator Palatino Palo Alto Park Ruenue

Prelude Script

Prestige Elite

San Francisco

Sans Serif

599 N. Ma vale CA 94086

Please circle 167 on reader service card.





Why you should buy a mouse with no moving parts.

One simple reason. No moving parts. And that means no problems.

Introducing the A+ Mouse from Mouse Systems. The A+ Mouse is an all optical mouse with no moving parts. It doesn't depend on friction, so there aren't any parts that can slip, get dirty or wear out. It doesn't have a rolling ball, a commutator, little teeny bearings and shafts, or plastic housings housing who-knows-what.

Instead, our mouse uses a mirror-like pad that reflects a tiny beam of light to track your slightest hand movement. No other mouse moves as fast or is as reliable.

Especially when you're moving around in spreadsheets and graphics software or editing text and manipulating data. That's because our mouse gives you up to 200 counts per inch and digital accuracy for exceptional cursor control.

Plus solid state electronics to ensure precision. No matter what Apple system you have, we have an A+ Mouse that's right for you.

The A+ Mouse is compatible with the Macintosh 512K, Macintosh Plus, Apple IIc and Apple IIe (which requires the Apple mouse card).

The A+ Mouse ADB is ideal for the Macintosh SE,

Macintosh II, and Apple IIGS.

The A+ Mouse. The mouse you'll never have to clean, repair or replace. It's so reliable, it's the only mouse which comes with a Lifetime Warranty.*

See your local dealer for a demonstration.

Today.

A+ MOUSE MOUSE SYSTEMS



Move Over Machiavelli

It's impossible to make comparisons about Trust & Betrayal. It's certainly a brilliant effort to expand the horizons of computer gaming; you're dealing with not one, but six artificial personalities who have been programmed so seductively that you forget they're not real. And once again, Chris has loaded a game with his random number generators so that no two games are identical; you'll face different obstacles and different personality profiles every time you play.

My only real warning is that Trust & Betrayal is a fairyland world that owes its existence to your ability to experience a childlike sense of wonder; you must suspend your disbelief just long enough for Siboot and his friends to work their magic. If you can't thaw enough to relive the thrill you got when you were handed your first balloon, steer clear. If you're willing to let your imagination run away with you, Kira can be a mighty nice place to visit.

EZRA SHAPIRO, A CONTRIBUTING EDITOR FOR MACUSER, HAS BEEN A FIXTURE IN THE COMPUTER INDUSTRY FOR YEARS, KIND OF LIKE A RUSTY FAUCET OR A PORCH LIGHT. HE ALSO PUBLISHES A NEWSLETTER CALLED TECHNOLOGY AND ADVERTISING.

MACUSER RATING

None

Trust & Betrayal: The Legacy of Siboot 1111/2

Follows Mac Interface Printed Documentation

On-Screen Help Performance

Support Consumer Value

Comments: An entirely new sort of computer game that involves negotiating with six artificial personalities in a struggle for power. Best Feature: Icon-based pseudolanguage allows seemingly real "conversations" with story characters. Worst Feature: The premise is detailed and somewhat maudlin; the contrived setting may turn off the more logically minded. List Price: \$49.95. Requires 512K. Published by Mindscape, 3444 Dundee Road, Northbrook, IL 60062. (312) 480-7667. Copy protected, but allows one reversible installation on a hard disk.

Our Corporate Philosophy:



Remove the barriers between you and your work. PowerStation™ is a Finder alternative that lets you organize your work for fast and easy access to applications and documents.





Please circle 169 on reader service card.

Compatible with MultiFinder. Suggested retail price \$59.95. Order from your favorite software retailer or call (800) 443-0100, ext. 451. This number is for credit card orders only, \$3.50 shipping/handling charge per order.



Please circle 74 on reader service card.

The QUEDessential Editor

MAN DOES NOT LIVE BY text alone. He likes to indulge in a diagram here, some boldface there and a halftoned photo thrown in for good measure.

Unfortunately, man has to communicate with computers that only speak text, the Esperanto of the computer world. The Mac owner down the street might not have Word Perfect and might not know how to convert from Mac Write. The programmer in the next town has a C compiler that only compiles text files.

The journalist who interviewed you sends her story to the local paper over Telemail, a system with no graphics support. And the mainframe computer at work requires a plain-text report in the same tedious format every Monday morning.

Time to buy MS-DOS?

No way! Time to get a first-rate text editor. Even though the people around you may not benefit from the QUED/M can train

your words to jump

through hoops.

Mac's features and the features of your favorite word processor or page layout program, you don't have to suffer. With *QUED/M*, you'll have an easy-to-learn yet powerful text editor to create files only a compiler (or Telemail, or IBM or your mother) could love, and you'll create them in record time.

GET YOUR FEATURES HERE

QUED/M is a text editor, not a document processor. Thus it cannot support graphics of any kind. It also cannot support multiple typefaces, styles or sizes in the same document. You choose one font combination

for a whole file. You give up the subtle nuances of expression, but you gain the ability to communicate with almost any computer or daisywheel printer anywhere and to produce and manipulate text-only files without wading through complex style and format menus.

QUED/M is fast. Starting the program and opening even long documents are painless tasks, even with floppy disks. Once files are loaded, scrolling through them is immediate, since open documents are kept entirely in memory. Even getting out of QUED/M is fast: A user-definable Transfer menu quits and goes to any other application in a flash. Maybe the "qu" in the name stands for quick?

Speed is nice, but *QUED/M* also saves your time with a most impressive set of features. Paragon, the publisher, may have stopped short of adding the kitchen sink, but they remembered the automatic coffee-

BY LINDA CUSTER



Re-ink ANY FABRIC RIBBON automatically for LESS THAN 5 CENTS with

MAC INKER



Over 11,000 cartridges and spools supported!

MAC INKER™

IMAGEWRITER I AND II
UNIVERSAL (cartridge or spool)
MULTICOLOR IMAGEWRITER
MULTICOLOR ADAPTER ONLY
\$42.00
\$68.50
\$80.00
\$40.00

Shipping (first unit) \$3.00

■ Lubricated DM INK EXTENDS PRINT-HEAD LIFE! Black, blue, brown, red, green, yellow, purple, orange - 2 oz. bottle \$3.00; pint \$18.50. Gold, silver, indelible and OCR inks available. Heat transfer MacInkers and ink available plus a complete range of accessories for special applications. ■ Top quality, GUARANTEED, double density

■ 10p quality, GUAHANTEED, double density ribbon cartridges and reloads available.
■ DEDICATED MAC INKERS AVAILABLE FOR EXTRA LARGE OR SPECIAL CARTRIDGES.

MERCURY MODEM

\$149.00 Shipping \$4.00



*100% Hayes™ compatible!

■ 24 month warranty. ■ Status lights. ■ Speaker. ■ 300/1200 baud. ■ Call progress detection.

Quick Link communications software MS DOS and Macintosh

with modem 15.00 Cable 15.00

*Hayes is a trademark of Hayes Microproducts.

Connect up to 4 peripherals!

DATA

SWITCHES 2 port \$46.00

2 port **\$46.00** 4 port **\$59.00**



Shipping \$4.00
Parallel, serial, 2 or 4 way, crossed, etc.



MAC SWITCHES \$50.00

Cable \$15.00

8 or 9 pin models available

Shipping \$4.00

\$29.95

SPECIAL OFFER: For orders of \$100.00 or more. Tell us in which magazine you saw this ad and get a free keychain, beeper, and flashlight combined! A \$15.00 value!

ORDER TOLL-FREE 1-800-547-3303

In Oregon (503) 626-2291 (24 hour line)

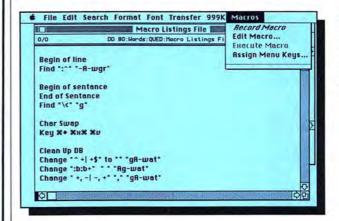
We are and always will be your

CEMputer Friends®

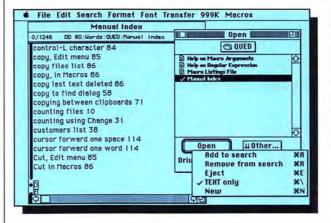
14250 N.W. Science Park Drive Portland, OR 97229, Telex 4949559 Dealer Inquiries Welcome.

Please circle 56 on reader service card.

The QUEDessential Editor



QUED/M macros are ordinary text files containing commands for the program to replay. Any macro can be assigned a command key to make it easy to run.



Instead of the usual Macintosh Open dialog box, QUED/M presents you with a useful window that stays around all the time. It's great for opening multiple documents, and you can cut the names of the listed files and paste them into another document.



QUED/M's change dialog supports not only words but abstract patterns so you can find telephone numbers, control characters and other obscure things.

maker that grinds the beans and brews the coffee at exactly 6:10 AM every morning.

Cut, Copy and Paste are enhanced: Intelligent Cut and Paste keeps track of whole words when they're selected by a double click, and automatically moves or deletes the spaces around words only when appropriate. Undo can jump through any level of mistakes and back again. (You set the maximum number of levels Undo will remember, as high as 300 or more if you

like—and if you have the necessary memory.) QUED/M even maintains 10 separate clipboards for holding form paragraphs or letters or for quickly rearranging major portions of your text. (Clipboard 0 is the standard Macintosh Clipboard that persists across applications. Anything in the other nine clipboards will be lost when you leave QUED/M.)

Working with multiple files at one time couldn't be easier. *QUED/M* supports stacking and tiling of win-

Desktop Animated Presentations

Present your charts, graphics and reports with animation and music.

Now you can produce full-color presentations that move. And that move your audience.

Animation adds power and persuasiveness to any presentation, whether it's next year's business plan or today's lesson plan.

New VideoWorks II makes it easier than ever to animate your shows...and your viewers. For beginners, an Overview window simplifies the work of creating presentations; that can include animation, wipes, fades, dissolves...24 different transitions in all.

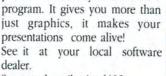
Plus comprehensive timing options, sound effects, music...and the excitement of color. VideoWorks II works great with the Macintosh II (in either 16 or 256 colors) or the 512, Plus, or SE.

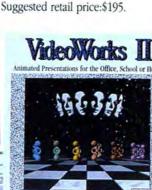
Create animated presentations without being an artist.

The VideoWorks II package comes with its own library of ready to use pre-created artwork, movies and "clip animation"(e.g. flags waving, a cannon firing). In addition you can take images from PICT, MacPaint, Glue or other sources and animate anything from a business presentation to a rock video. (You can also use VideoWorks II for your nonanimated slide shows.)

The original VideoWorks made history. (MacUser called it "the most innovative program of the year." Disney Animator Frank Thomas said it was, "the best program I ever used.")

Now, VideoWorks II is so improved it's virtually a whole new program. It gives you more than just graphics, it makes your presentations come alive!





Ideal for:

- Business Presentations
- Animated Slide shows
- Multi-Media Storyboards
- Educational Courseware
- Scientific Motion Studies
- Point-of-Purchase displays
- ... and just having fun.





MacroMind® Inc.

MacroMind, Inc. 1028 W. Wolfram St. Chicago, Il. 60657 (312) 871-0987 To trade up send \$100, your original Movies disk and \$7.50 for shipping.

Comes with three 3.5" disks (800k each): the Program, Clip Animation, Artwork and Movies; and a Guided Tour training disk. Not Copy Protected. Clip Animations™, Clip Charts™, Clip Sounds™, Movies, the VideoWorks II™ Hypercard Driver and Video Works II™ Compiler disks are also available.

VideoWorks II, Clip Charts, Clip Sounds and Clip Animations are trademarks of MacroMind® Inc. Macintosh, MacPaint and Hypercard are trademarks of Apple Computer Inc. Glue is a trademark of Solutions. Inc. Distributed by Broderbund Software, Inc. ©1987 MacroMind® Inc.



If you manage, think, write, or plan, you need ThinkTank. It's the smart executive's competitive edge. ThinkTank is almost effortless organization. Pure. Simple. Highly practical. Just put your ideas in. The results will knock you out.

For more information, call 1-800-441-7234, in CA 1-800-626-8847.



117 Easy Street • Mountain View, CA 94043 • (415) 964-6300

The QUEDessential Editor

dows to make small screens (and even large ones) bearable. You can have as many windows open as memory will allow. Most commands that work on one file can be performed on all open files with an extra keystroke or two or the selection of a menu item. You can even search and replace in unopened files by adding their file names to *QUED/M*'s multi-file search list — handy when you forget into which file you've put something.

Names or numbers can be used to mark any position in a file. Later, you can jump immediately to that position by searching for it. You can also get a grand view of your documents by splitting their windows into horizontal and vertical panes. Disable automatic word wrapping if you like, so explicit carriage returns are required to separate lines. Make any selection all upper- or lowercase, capitalized or inverted case, or hide it so it won't be viewed on the screen or printed until you unhide it.

Programmers will appreciate the built-in functions to balance, count or display parentheses so that logical and mathematical expressions aren't left hanging. They'll also appreciate QUED/M's SORT LINES and COMPARE commands, the SHOW INVISIBLES and SHOW ASCII commands — so you really know what's in a file — and the ZAP GREMLINS command that removes all special non-text characters that many compilers and mainframe computers can't understand. After all, it's what you can't see that'll hurt you.

An info window, available for every file, displays a line, character, and word count. A user preference dialog allows the option of saving a backup copy of all files and an automatic file save after a certain number of keystrokes. Users can also choose to have their files saved alternately between any two disk drives. These are features that all word processors should, but often don't, include.

Printing from QUED/M is flexible and efficient. Background printing is supported on the ImageWriter as long as you don't leave the program, so you can print one document while you compose another. Now that background printing on

the LaserWriter is supported by System software, LaserWriter users are covered as well. On both printers, margins are selectable, and a header, including page, title and date, can be added

EXPRESS YOURSELF REGULARLY

Most of the time, QUED/M searches and replaces just like any other word processor. You can make searches case sensitive, or you can ignore case altogether. You can paste in special characters, too. However, QUED/M can go far beyond simple searching because it supports the same regular expression set used by mainframe and micro UNIX systems for pattern matching.

Regular expressions aren't for the timid. If you don't think you'll feel comfortable with strings like: <[^A-Za-z0-9—]:>[A-Za-z0-9—], you don't ever have to use them. If you like decrypting code, though, forge on ahead. The journey might well be the reward.

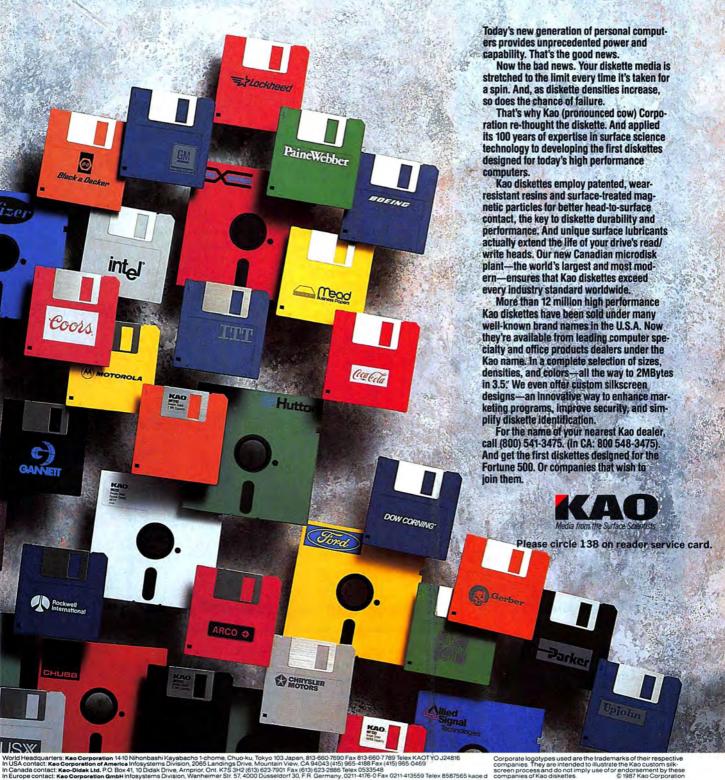
By stringing along special regular expression symbols and selecting the Regular Expression box in the search dialog, you can tell *QUED/M* to look for patterns like phone numbers. Just search for any space or return followed by three digits, a hyphen, four more digits and a space or return. You can even use this method to determine how many phone numbers a document contains. Likewise, you could look for Zip codes or part numbers.

M IS FOR MACRO

All of QUED/M's commands can be accessed from macros, "autopilots" that allow you to do the same series of things with files over and over again. You might use macros to open and close files, create form letters, move text from one file to another or manipulate the clipboards. Macros are simply text files that contain lists of instructions. You can teach QUED/M a macro by typing all the necessary commands into a text file or by entering a learning mode where all your actions are recorded for later playback.

Macros you program yourself might be useful for routine tasks like analyzing or creating reports. Ob-

KAO. THE FIRST DISKETTES DESIGNED FOR THE FORTUNE 500.



$MiniCad^{M}$

Let Others Speak for Us

Computer Graphics:

"MiniCad even beats AutoCAD.. it combines 2D and 3D features in one package.. a sophisticated 2D and 3D drafting program that is clearly intended for the professional CAD user."

CAD/CAM Journal:

"A major contendor in the Macintosh CAD marketplace.... MiniCad offers enormous functions for the price."

Graphic Perspective:

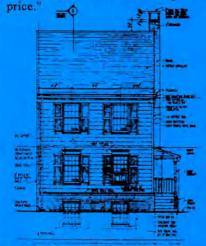
"MiniCad... is a wonderful example of one of those pieces of software that slips onto the scene unannounced, quietly surpassing all similar programs that break in on the market with a huge splash."

Personal Publishing:

"MiniCad bridges the gap between everyday drawing applications and professional CAD programs, and it combines the best of both."

MacWorld:

"MiniCad achevies an ideal balance of simplicity and capability.. Don't let the name fool you.. there is nothing "mini" about MiniCad except the



Priced at only \$495.00

MiniCadTM

is developed and produced by

Diehl Graphsoft Inc.

8370 Court Ave. Suite 202 Ellicott City, Md. 21043 301-461-9488

Please circle 96 on reader service card.

The QUEDessential Editor

Another Game in Town

QUED/M isn't the only automatable text editing game in town. It has some competition from a text editor called MEdit. While QUED/M has many more features, MEdit is no slouch. It was written by Matthias Aebi of Zurich, Switzerland. The latest version available at press time is 1.5.

MEdit supports files of unlimited size in a unique way. When files are too big to fit in available memory, they are broken up automatically into sections. You page through sections by clicking in special added areas above and below the normal vertical scroll bar, and your whole long document flows together almost transparently. This feature will become more important as MultiFinder and new System

releases place greater demands on available memory.

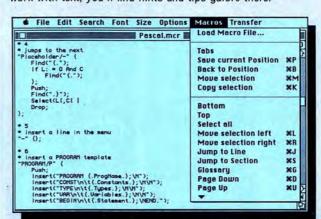
You can write automated macros by typing them into a text file. They are more limited than the macros in QUED/M, since options like removing control characters and working with multiple clipboards aren't available, but they're adequate for most jobs. The macro language reads much like Pascal and can probably be picked up by programmers more quickly than QUED/M's. MEdit macros must always be written from scratch, though, since you won't find an automated Learn mode. Beginning with version 1.4, macros must also be processed through a separate compiler program before they can be used in a program. While this speeds up macros considerably when they're run, it slows down creating, debugging and changing them. Since older versions of MEdit ran macros from text files more conveniently, a built-in compiler or an option to still run text files would be welcomed.

Normal Find and Replace are supported, but they require that you capitalize words as they are found in the document. Searching for "MEdit" is different than searching for "Medit." Also, the SEARCH and REPLACE command will not search for

for patterns unless those commands are placed in a macro file.

MEdit doesn't support Undo, so frequent backups of files are a must. Cut and Paste aren't "intelligent," and cursor (arrow) keys aren't supported. Many of MEdit's shortcomings can be overcome by macros, though, and macros can even be activated from any key sequence you desire.

If you think you'd like to use a text processor but don't know how useful it might be, MEdit is a great program to test drive. You can get it from your local user group or on-line services and bulletin boards. It's small — only 40K — and you can't beat the price. The editor, compiler, documentation and example files are free, and for \$25 to the address in the About box, Matthias will send you the TML Pascal source code to MEdit. If you're doing any work that involves programming the Macintosh to work with text, you'll find hints and tips galore there.



MEdit's macros are text files. The macro language resembles Pascal and is easy to learn.

tain stock price information from a central computer and use regular expressions to find the issue names and prices. Copy that information and paste it into a form letter by searching for the string {*price*} and replacing it with the current price. Run through this procedure once in learn

mode, then edit the procedure to work for any generic day's prices. You've completely automated the report, so next time you just hit a key and sit back. Usually a mixture of performing a procedure in learn mode and then editing the procedure later works best.

ONE SIZE FITS ALL

Paragon wasn't too happy with the size of the potential market for a text (only) processor. They decided to market QUED/M as a personal productivity and data base tool as well. The program comes with excellent prewritten macros to handle your address, phone and mailing lists and your appointment calendar. It'll track and extract citations in scholarly writing or convert your data base of personal contacts to a standard, readable format. You just open the listing of supplied macros, choose the ones you want to use, and give them command key equivalents if you like.

P aragon wasn't too happy with the size of the potential market for a text (only) processor. They decided to market QUED/M as a personal productivity and data base tool as well.

As nice as these prewritten macros are, don't buy QUED/M to replace Sidekick or FileMaker Plus. In a pinch, the macros will do the job, but they bring back the days when dedicated office word processors were used to store data. You simply can't beat data bases for doing what they do best. Buy QUED/M for its text editing, then enjoy the macros you find useful.

While the more elaborate data base macros might be only marginally useful, many of the smaller textoriented ones are great. You'll find macros already written to transpose characters, clear all 10 clipboards at once, count the number of words, sentences and paragraphs in your documents, produce an alphabetical list of all the words in a document

and even add all the figures in a column for you. Use all the time you save to browse through the macros at your leisure and learn how the language really works.

One gotcha on file size: If you routinely need to view very large files, or work with a large number of files at the same time, be aware that QUED/ M needs enough memory available to store all current files. It also needs some room to maintain its clipboard and undo buffers and other housekeeping. Current versions QUED/M cannot read parts of files from a disk, and you may find files that must be opened instead with a disk-based editor like MacWrite or Microsoft Word 3.0. Now that Apple has released MultiFinder and applications often run in relatively small partitions, Paragon may be forced to release a disk-based version.

HITTING THE BOOKS

QUED/M comes with a 120-page manual which includes an index. The index is repeated on disk so you can search it from inside the program; a nice touch. It also comes with text help files on regular expressions and macro commands. These files are opened directly like any other text file and are fully editable. While being able to search help files is a welcome feature, users are not prohibited from changing the contents of the help files or from deleting their contents altogether. A more standard read-only on-line help system available from the Apple menu would be more useful.

The manual is aimed at power users - programmers and experts. Its first six chapters detail all of QUED/ M's features except regular expressions and macro programming, and in total they take only 19 pages. Most users would benefit from a more complete discussion of how to get the most out of the program a short time. Probably most QUED/ M users will be able to use the program right from the box but will never take the time to investigate its full potential. They won't even realize certain functions are available. A more inviting discussion of the program might help.

The chapters on regular expressions and macro commands, comprising the majority of the manual, are complete but difficult to navigate. The index is complete enough to point to the right page for most inquiries, but the manual's layout could be less cluttered. Perhaps separating out well-marked tutorial and reference sections would help users focus their attention more easily.

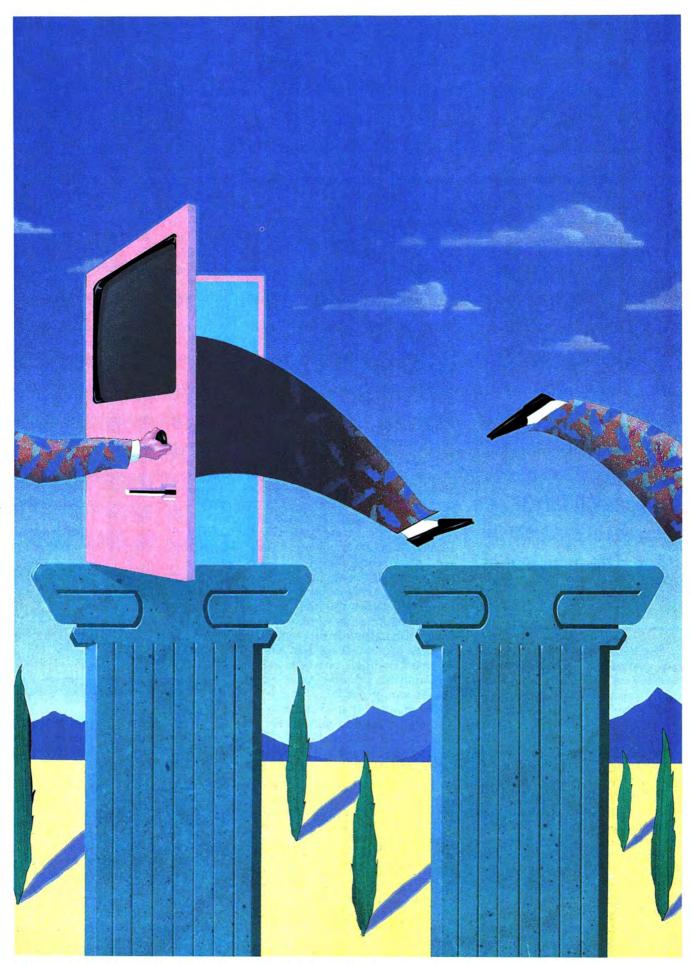
THE WORD'S OUT

Sure, your favorite word processor can save documents in text-only form, and desk accessories like mini WRITER and MockWrite can read and write text files for you. However, they all lack many features like (almost) infinite undo, multiple clipboards and a full macro facility. Many can't work with more than one file at once, and none have a sophistisearching utility. QUED/M is reasonably priced, easy to learn and use, and supports well almost any text processing function, consider using it alongside your other programs. After all, other programs can open any text file, so you won't waste time importing and exporting files. Though you may need QUED/M for only a few of its features, you may soon make it your text processor of choice and wonder how you got along without it. A

LINDA CUSTER IS A PH.D. CANDIDATE IN BIO-CHEMICAL ENGINEERING AT UC BERKELEY AND A MAUG SYSOP.

MACUSER RATING QUED/M \$\$\$\$\frac{1}{2}\$\$ Follows Mac Interface Printed Documentation On-Screen Help Performance Support Consumer Value

Comments: An excellent word processor for plain text with many useful extras. Best Feature: Supports a powerful programming language to operate on text documents. Worst Feature: Limits the size of documents to available memory. List Price: \$129. Published by Paragon Concepts, 4954 Sun Valley Rd., Del Mar, CA 92014. (619) 481-1477 Version 2.01 reviewed. Version 2.04 released at press time. Not copy protected.



Screening Room

IMAGINE WORKING ON A SIX-PAGE MacDraw map of the United States, moving effortlessly through your work without once reducing or using a scroll bar. See yourself wielding full-page Excel spreadsheets and charts. Envision hoards of desk accessories neatly laid out on a 20-by 20-inch desktop. Imagine swiftly sailing through a PageMaker layout-...tabloid...double-page... at 100%... and imagine that you acquired this power for the price of a couple of video games. Science fiction? Stop imagining and go get it.

It's Stepping Out. It's software. It's the answer to the prayers of Mac owners who need a large screen display, but can't accommodate the bulk or expense of a large monitor.

Stepping Out converts your Mac's screen into a magic eye that you can move freely over your documents, as easily as panning a camera across a landscape. For graphics and layout projects, Stepping Out's instant edgesensitive scrolling lets you devote more time to creating your work rather than hopping around it. You can practically wave good-bye to those jumpy little scroll bars and Fit in Window views.

STEP THIS WAY

In the Mac universe, applications interface with us through windows of various sizes and properties. Most well-written applications, especially those of recent vintage, can use win-

Dreaming of a large

screen display?

Cheer up. You already

own the hardware you

need. Stepping Out

provides the rest.

dows which are far larger than the Mac's screen. Normally, they sense that your screen is only 512 X 342 pixels, and they'll display just enough information to fill it. When you need to see other parts of your documents, you use the familiar scroll bars that tell your application to calculate and present a new view. This computed scrolling can be rather slow.

Stepping Out convinces every application that your screen has grown to say, 612 X 792 pixels (8.5 inches X 11 inches). It then reserves an area of memory large enough for such a screen which applications amenably fill with their output. You can still view only a portion of this large space, but to see a hidden area you just slide your mouse in its direction and Stepping Out instantly transfers the proper contents of the virtual screen to your physical screen. The faster you mouse, the more space you traverse. Its speed and smoothness are sheer ecstasy. I've shown it to both Mac and PC lovers, and it's never failed to leave their jaws hang-

Some applications don't allow you to enlarge their windows. You can still use the extra desktop space created by Stepping Out to lay out desk accessories without overlapping them, creating a more natural desktop arrangement than stacking and shuffling your telephone book, calculator, note pad, Scrapbook and what have you.

IT NATURALLY FOLLOWS

Stepping Out's basic talent is its ability to follow the cursor as it leaves the visible screen. This minor miracle adds auto-scrolling capabilities to applications which lack it, like MacDraw, and it easily outperforms the built-in auto-scrolling of applications like MacDraft, Cricket Draw, SuperPaint and Illustrator.

Stepping Out exhibits a similar talent during text entry. It instantly follows the text insertion pointer (Ibeam) as it attempts to leave your view. You can thus use extra wide text windows and always see what you're typing. When words wrap around, your view zips back to the left margin of the document. This function is independent of the application you're actually using and it's

BY SALVATORE PARASCANDOLO

Screening Room

superior to the lateral scrolling provided by some word processors. It's a handy feature if you must compose wide text in true WYSIWYG mode, but I find that the normal 512-pixel window is best, because I can see entire paragraphs without scanning laterally.

If you plan, paint, illustrate, design forms, draw, draft or publish, you need *Stepping Out*. If you write, program, chart, spreadsheet and rely on desk accessories, it'll give your productivity a healthy boost. (If you mostly play video games, or are thrilled by watching a screen-saver in action, save your cash.)

STEP ONE

You install Stepping Out by copying it onto any disk. It occupies a modest 18K of space. Thereafter, you simply double-click its icon from the Finder. The first time you activate Stepping Out, it automatically begins to create a virtual screen with the pixel dimensions you last chose. You can halt the automatic process by holding down the mouse button and specifying a new width and height. If you activate Stepping Out with a virtual screen already in use, it will wait for you to enter a new size. Stepping Out also tells you how much RAM is needed for the screen you specify. It's that quick and easy to resize or remove the virtual screen for each application you use.

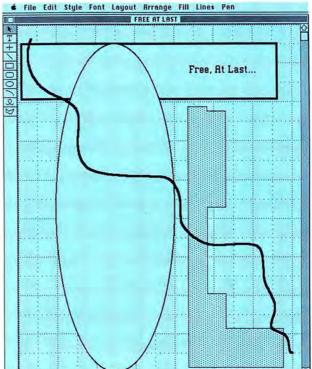
THE BASICS

You'll need a 512K Mac or better. Stepping Out uses about 84K of basic operating RAM, plus 648 bytes for each square inch of virtual screen, or 60K per 8.5- X 11-inch page. This roughly translates to 141K bytes for the equivalent of a Radius Full Page Display.

With a Mac 512K, you can free up RAM by reducing or turning off your RAM cache and/or RAMdisk. On a Mac with a megabyte or more, you must still pay attention to the screen memory size if you use a large cache or RAMdisk or Switcher. With 2 or more megabytes you can practically forget calorie-counting. Experiment to arrive at the set-up that suits your hardware, software, working style and project. Take care, howev-

File Edit Search Format Font Style ■ W-STEPPING OUT ARTICLE After doing a single illustration with Stepping Out, you'll wince at the thought of returning to that confining little screen and bumping against its stone walls. Illustrator immediately takes up the entire virtual screen with new document windows. A wide window will help avoid the jerky slow scrolling that stands out as the only feature of Illustrator that is not buttery-smooth. Even with 14 Stepping Out's processing overhead, all operations retain much of their operational flow. On the virtual screen you can place several document windows or new views on the same document. These windows can also, and best of all, be amply sized. The movable tool palette lets you carry your tools to the screen Calculator+ Notepad+ Full Paint has one size of fat bits. You can use Stepping Out's variable magnification to select the fat-bit level you need, and you can specify how large a fat-bit window you want. This is substantial flexibility. sin cos tan atn % Int FV PV Ax LP √ In eX xY ± There are differences in perforsance between the built-in fat-bits and the enlarged view, for example, cursor never changes size in any angolification, but the affect is always proportional to the size that IT MOULD BE it had been augnified along with the image. When you would be the conserver of the brush, our the encaser, or the brush, С - + • п 7 8 9 + M-4 5 6 E M+ 1 2 3 MC Print tape Art Grabber by MacroMine 9 10 11 12 13 14 15 16 17 18 DAYS SPENT USING STEPPING OUT

A Real Desktop.
You no longer need to keep your desk accessories in a jumbled heap. Take advantage of available screen space for tool and reference windows. You save shuffling time and can still see the information displayed in inactive windows.



Free at Last.
Freehand drawing truly flows in any application that supports full-page windows. In this drawing, all the objects were rendered in normal size in a few seconds, without regard to anything but the creation process.

er: Some applications and desk accessories may just hang, or crash when they run short of memory.

The few rare times I've crashed the

System, I've found the greedy culprit at the keyboard, trying to squeeze too much into too little. Stepping Out is fundamentally bomb-proof. It

Has that statistics package you thought was a tiger turned out to be something else?



Most Mac statistical packages call themselves 'professional,' 'comprehensive,' or 'complete.' But feed them some real problems, and you'll discover how toothless they really are. They can't do multivariate procedures Or analyze financial time series Or fit nonlinear models

Or compute large, multi-way cross tabs

That's why, if you're serious about statistics, sooner or later you'll end up with SYSTAT. No other Mac package has SYSTAT's range of statistics and high resolution data graphics.

Mac Features: Pull-down menus, Clipboard, Desk Accessories and mouse control of spreadsheet data editor Replay commands

Macintosh II™ and 68020/68881 versions available

Graphics: More than 50 business and scientific types with PostScript™ support for Apple LaserWriter™ (300 dpi) Two dimensional: Error Bars Scatterplots Line and Vector Graphs Vector, Dot, Bubble and Quantile Plots Bar Graphs (single, multiple, stacked, range) Box Plots (single and grouped) Stem-and-Leaf Diagrams Linear, Quadratic Regression LOWESS Smoothing Confidence Intervals (any alpha value) Smooth Mathematical Functions Rectangular or Polar Coordinates ANOVA Interaction Plots Histograms (regular, cumulative) Fuzzygrams Gaussian Histogram Smoothing

Scatterplot Matrices (Casement Plots)

Three dimensional: Data Plots Smooth
Function Plots Vector Plots Linear,
Quadratic Surface Smoothing Locally
Weighted Least Squares

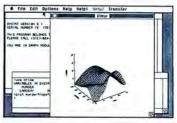
Weighted Least Squares Statistics: Basic statistics, frequencies, t-tests, post-hoc tests Multi-way crosstabs with log-linear modeling, association coefficients, PRE statistics, asymptotic standard errors Nonparametric statistics (sign, Runs, Wilcoxon, Kruskal-Wallis, Friedman two-way ANOVA, Mann-Whitney U. Kolmogorov-Smirnov, Lilliefors, Kendall coefficient of concordance) Pairwise/listwise missing value correlation, SSCP, covariance, Spearman, Gamma, Kendall Tau, Euclidean distances Linear, polynomial multiple, stepwise, weighted regression with extended diagnostics Multivariate general linear model includes multi-way ANOVA, ANOCOVA, MANOVA, repeated measures, canonical correlation Principal components, rotations, scores Multidimensional scaling Multiple and canonical discriminant analysis, Bayesian classification Cluster analysis (hierarchical, single, average, complete median, centroid linkage, k-means, cases, variables) Time series (smoothing, seasonal and nonseasonal ARIMA, ACF, PACF, CCF, transformations, Fourier anaylsis) Nonlinear estimation (nonlinear regression, maximum likelihood estimation, and more)

Data Management: Full screen spreadsheet data editor Missing data, arrays, character variables Process hierarchical, rectangular or triangular files or files with variable length records Character, numeric, and nested sorts Merge and append large files Unlimited numeric and character transformations Subgroup processing with SELECT and BY Value labels and RECODE statements Unlimited cases

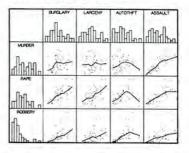
Macintosh II, and LaserWriter are registered trademarks of Apple Computer, Inc.; PostScript is a trademark of Adobe Systems, Inc.

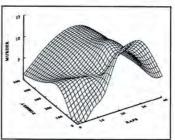
Mac screens





LaserWriter" graphics







Single copy price: \$595 U.S./ Canada; \$695 Foreign; Site licenses, quantity prices. Call or write for further information.

SYSTAT, Inc., 1800 Sherman Avenue Evanston, IL 60201 312 864.5670

Systat. Intelligent Software.

Screening Room

has to be. I've routinely used it with a RAMdisk, RAM cache on, Switcher, desk accessories and an interactive spell-checker all chugging away. It remains flawlessly active between applications, even if control switches to a System on a different disk.

IT LENDS A LENS

As if a large virtual screen were not enough, Stepping Out puts sixteen levels of split-screen magnification at your disposal using COMMAND-OPTION-2 through 16 — instant functional Fat Bits any time. Use this tool to make fine adjustments to technical drawings, scanned images or page layouts. If your eyesight needs a boost, you have a built-in set of spectacles. You can resize the portion of the Mac screen devoted to magnified view, from one-inch wide up to a full screen, by using COMMAND-OPTION-R and mousing left or right.

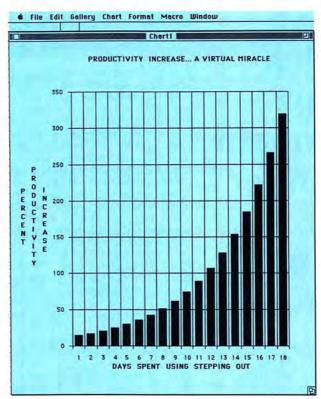
SEEING A SHRINK

Berkeley System Design hasn't forgotten that you'll occasionally need a bird's-eye view of your large screen. With COMMAND-OPTION-SPACEBAR, you'll get a split-screen Reduce to Fit view where the left side of the screen displays a normal-size section of the area around the cursor, and the right side shows most or all of the virtual screen, highly reduced. Two levels of reduction are available. Voilá, a working page preview mode for most of your applications. In both enlarged and reduced views, all your applications' tools are fully function-

This may come as a shock to you, but your Mac shows you things in reverse video; black dots on a white background. "Normal" video is white on black. If you long for the world of normal video Stepping Out lets you invert the display using OPTION-COMMAND-B. This will give you a blueprint-like preview of your drafting work. I found it eye-soothing to periodically invert the display during word processing. Inverted Chicago font is rich and readable.

MR. BIG SHOT

A screen shot is an exact 512 X 342 pixel screen dump in *MacPaint* file format, titled "Screen 0," then



Hot On The Charts.

Excel's charts can grow in stature in the freedom of large screens.

D51 512	/Plus		
	Mac Accesso	ry History	
A	В	C	D
Item Name	Maker	Generic	Spec 1
MacProof	A.L.P. Systems	Spell Checking Software	Spell/Stule/Grammar
Abaton Scan 300	Abaton		300 DPI
Cherecter Reader	Abaton	Text Reader	300 DPI Scenner
MacSpace	Abvent	3-D Modeling Software	
Word Hendler	Advanced Logic Systems	Word Processing Softwa	512/Plus
Tempo	Affinity Micro Systems	Mecro Software	Record/Playback
PageMaker	Aldus	Publishing Software	512/Plus
Disk Express	ALSoft	Disk Organizer	Floppy/Herd
PhD	Amcodyne	Disk	100MB
Storyboarder	American Intelliwere	Storyboarding Software	Limited animation
Signalman Express	Anchor Automation	Modern	300/1200
Signalmen Lightning	Anchor Autometion	Modern	300-2400
Animation Tool Kit I	Ann Arbor Softworks	Animation Software	Flip-Book style
Full Peint	Ann Arbor Softworks	Painting Software	512/Plus
Hard Disk 20SC	Apple Computer	Disk	20MB
Imagewriter II	Apple Computer	Printer	Color 9pin
Leserwriter	Apple Computer	Printer	B/W 300 DPI
Mec 68000 Development Se	Apple Computer	Compiler	Assembler
MecDrev	Apple Computer	Drafting Software	128/512/Plus
MecPaint	Apple Computer	Painting Software	128/512/Plus
MacPascal	Apple Computer	Interpreter	Pescal
MecProject			
MecTerminal	Apple Computer		
MecWrite	Apple Computer	Word Processing Softwe	Easy/Medium Power
dBASE Mec		Data Base Software	Powerful/forms/Menus
AST 2000	AST Research	Disk/Tepe	20MB+
AST 4000	AST Research		74MB+
Turboscan	AST Research		300 DPI
Battery Pack	Betteries Included	Deak Accessory Softwar	
		Spell Checking Software	
		Fen	External
			Imagewriter
			160MB Data reach/Fest
			Relational
			Pescal
MecIndexer	Boston Software Publis	Indexing Software	MecWrite/Word files
The MecPublisher II	Boston Software Publis	Publishing Software	512/Plus
			Cards/Banners/Borders
			Detsywheel
			Deisywheel
			Dot Metrix/9pin
Profit Stelker	ButtonDown Software	Personal Finance Softwa	Charts data on stocks/cor
	Price Proof Abeton Scan 300 Character Reader HacSpace Word Handler Tampo Pagerlater Olsk Express PhD Signelman Express Signelman Lightning Antimation Tool Kit I Foil Peint Hard Disk 2050 Imagevriter Hac 68000 Development Si HacPraje HacP	A B Item Name Haker HacProof ALP, Systems Abaton San 300 Abaton San 300 Character Reader HacSpace Abaton San 300 Character Reader HacSpace Abaton HacSpace HacSpace Abaton HacSpace Abaton HacSpace Abaton HacPace HacPace Aldu Disk Express Aldu Abaton HacPace American Intellivere Signelman Lightnin Annarbor Automation Astimation Tool Kit I Ann Arbor Automation Hard Disk 20SC Apple Computer HacPace	Hem Name A. D. Systems Spell Checking Software Abaton Scan 300 Abaton Scan 300 Scanner/Digitizer Character Reader Abaton Scanner/Digitizer Character Abaton Scanner/Digitizer Character Abaton Scanner/Digitizer Character Abaton Scanner Character Char

Spreading Out.

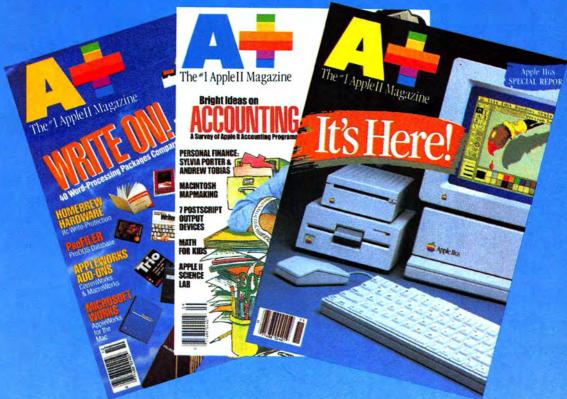
A wide view is great for entering data, and even better for using your data. In this Excel window, every click in the vertical scroll bar jumps you 48 rows. Selecting cells is faster, since more cells are visible in the larger window.

"Screen 1" and so on. MacUser articles are profusely illustrated with them. Ordinarily, you would dump the screen by typing COMMAND-

CE Software | Celen Central Point Software Disk

> SHIFT-3. With Stepping Out, COM-MAND-OPTION-S produces a 576 X 720 pixel (8 X 10 inch) MacPaint file. These images never include re-

ADD MORE POWERTO YOUR APPLE II



If you own or work with an Apple II series computer, you need A+ Magazine.

Every month you'll find in-depth tutorials that help you take your system into more complex and comprehensive business and home applications...discover tips and the know-how to maximize your computer investment...and keep up-to-date on the latest technological breakthroughs for Apple IIs



Subscribe today and save up to 50%! Call toll-free 1-800-525-0643 (In Colorado 1-303-447-9330) or return the attached order card.

1 year only \$19.97—Save 44% 2 years only \$35.40—Save 50%

4Z8C

Savings based on annual newsstand price of \$35.40. Basic annual subscription price is \$24.97.

Screening Room

Taking The First Steps

Most applications work perfectly with Stepping Out, and appear to know no bounds. Some of them have resizable windows in some modes, but not in others. Any problems, non-obvious limitations or insanely large leaps in user efficiency are highlighted in this catalog of applications tested with Stepping Out.

GRAPHICS

Canvas 1.0 No problems. Processing slowdown is noticeable.

ComicWorks 1.0

Maximum 8.5 X 11 page. Window grows to cover palettes on return from Thin Bits. You can't watch the airbrush at work. Spray effects are visible after releasing the mouse button.

Cricket Draw 1.0 No problems. Slowed down text, shadow and fountain effects. Suppress effect animation for much better speed.

FullPaint 1.0 No problems. For maximum area, use tiled windows option, and stretch windows manually. Windows are limited to Mac screen size.

Illustrator 1.1 No problems.

MacDraw 1.9 No problems. Reduce to fit enlarges the image if screen is larger than document. Very slow replay of recorded Tempo macros.

MacDraft 1.2a

These menu selections will hang the program: Drawing Size, Reshape, Align Objects, Set Size Units. Much faster auto-scrolling than MacDraft itself. Still worth the trouble for large work.

MacPaint 1.45

Makes no use of large screens.

Mac3D 2.0 No problems. Rotation and Camera windows are a fixed small size.

PowerPoint 1.0 No problems. Maximum 8 X 11 inch wide or tall drawing page.

Pro3D 1.0 No problems. Lathe and Profiler windows are Mac screen size only. Use Resize from View menu to fine-tune working window. Selection operations work, but objects and "ghosts" don't blink.

SuperPaint 1.0

Maximum 8.5 X 11-inch page. Place palettes on top or bottom of screen for convenience.

SPREADSHEETS AND DATA BASES

Excel 1.03 No problems. Non-chart windows can be any width. Screen height of more than 1100 pixels gives taller rows. Charts limited to 8.5 X 11 inches. Display jumps to screen top when entering data.

Windows can be any width. Height must be either full virtual screen or Mac screen height. Report preview clears after first few lines.

FileMaker Plus 2.0 No problems. Maximum work area is based on the selected paper size. Preview window is Mac screen size only.

No problems. Reflex 1.01 Indispensable for large form layout.

Works 1.0 No problems. Windows can use full virtual screen (except report design window). Good for side-by-side view of two document types. Worksheet display jumps to screen-top when entering data.

WORD AND IDEA PROCESSORS

HyperCard 1.0 No problems No benefits, either. Cards can only be the size of a Mac screen. Only one card is visible at any time.

MacWrite 4.5 No problems. Windows can be sized up to the 8-inch mark, height limited to Mac screen. Program patch in the Tip Sheet section of October '87 MacUser allows full page window stretch.

MindWrite 1.1 No problems. Window manager adds flexibility.

MORE 1.1 No problems. Great for full tree charts. Big screen is clumsy for bullet charts.

Word 1.05, 3.01 No problems.

No problems. WriteNow 1.0 Maximum work area is based on the selected paper size.

PAGE LAYOUT

PageMaker 1.2, 2.0 No problems with 2.0.

Ideal working environment. Quantum productivity boost. (With version 1.2, you can't see the marquee or autoscroll when selecting with it. Use shift-click for large off-screen selections).

Quark XPress 1.0

Same benefits as with PageMaker.

Ready, Set, Go!

Same benefits as with PageMaker. Use Cut instead of backspace to delete in order to bypass the annoying confirmation dialog box.

DESK ACCESSORIES

Art Grabber

Can't see the selection marguee, but it works.

MacTerm No problems. Notepad +

(Sidekick 2.0)

Windows can be Mac-size or less, or zoomed to the full size of the screen.

MacPlan No problems. (Sidekick 2.0)

Size spreadsheet up to the full size of the screen or up to Column U, Row 49, whichever is smallest.

Outlook No problems.

(Sidekick 2.0)

Windows can be up to the full size of the virtual screen.

No problems. SmartScrap | The Clipper

Sizing is limited to Macintosh screen size.

Best Performance.

Packing up to 40 megabytes of hard disk storage, 1 to 4 megabytes of RAM and even an optional 300/1200 baud internal modem within its small dimensions—the Dynamac® EL places unsurpassed power and versatility at your fingertips. Standard features include a Big Picture™ and composite video interface, a universal power supply and a high-resolution, gold Electroluminescent screen—capable of displaying 46% more information than a Macintosh.™ Choose from a variety of individually-tailored configurations, starting at \$4995.



Best Value.

Now you can have Dynamac performance with a smaller price tag: introducing the Dynamac GP. The GP features the same basic design and range of configurations as the EL—but, by removing the Big Picture/composite video interface and switching to a bright orange, Gas Plasma screen (that displays the same amount of information as a Macintosh), we managed to save you a thousand dollars. Without compromising performance. The new Dynamac GP: starting at just \$3995.

Case Closed.

No matter which model or configuration you select, the Dynamac comes with one standard feature that literally leaves the competition behind: it's portable. Sleek, rugged, easy to carry, the Dynamac is designed to accompany you anywhere, just like a briefcase. And, best of all, it's available now.

For more information, please contact Dynamac Computer Products, Inc., 1536 Cole Boulevard, Suite 252, Golden, Colorado 80401 (303) 233-7626.





Because the world of information doesn't sit still.

Screening Room

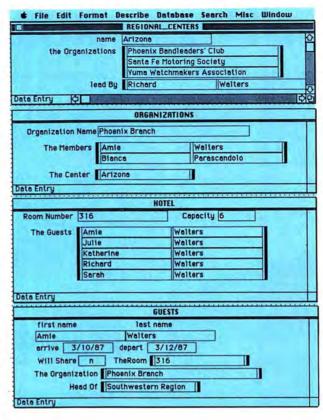
duced, enlarged or inverted views regardless of what's on the physical Mac screen. Most illustrations for this article were produced this way.

Although it works with Switcher, Stepping Out simply refuses to be launched by Switcher, so always launch Stepping Out first. Define a screen size that best fits your mix of applications. A size/shape that's optimal for one program may be inefficient for another. For example, a 640-pixel wide screen is fine for graphics, but may be frustrating for word processing because you'll usually overshoot the vertical scroll bar, and you'll rocket sideways instead. Place text windows flush with the far right edge of a wide screen so you can't overshoot their vertical scroll hare

As you set up each switchable application, be sure to clear the Save Screen checkbox in the configuration dialog (or click its Macintosh icon in the Switcher window). Each application will then redraw its screen each time you switch to it. Otherwise, whenever you go from application A to application B, B's window may appear to contain the bottom part of A's window. This effect varies with the mix of applications, it's harmless and strictly cosmetic, but it leaves an unworkable mess.

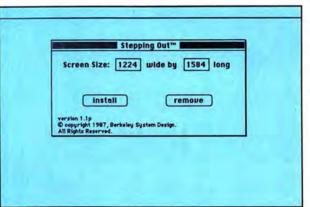
MAY I SEE THE MENU?

As you race across or down your large virtual screen, the menu bar, palettes and other non-trivial items unabashedly scroll away. Ordinarily, these don't move when you use scroll bars, but Stepping Out moves everything. Stepping Out 2.0, to be released by the time you read this, promises to keep the menu bar and tool palettes in view at all times. Meanwhile, you can reduce the inconvenience by using Commandkey equivalents for menu selections. If an application lacks such equivalents, you can usually assign them via CE Software's QuicKeys or the careful use of ResEdit. Where possible, strategically relocate any movable tool palettes provided by applications such as PageMaker, Ready, Set, Go!, Illustrator, Comic Works, Super-Paint and FullPaint.



Reflex Action.

Don't overlap —
distribute. With many related Reflex data base windows fully visible, you can save hunting and redrawing time, and you'll get a better overall picture of your data.



Four Pages, Please.
The one and only
Stepping Out dialog box
is where you specify your
screen size in pixels. The
amount of RAM needed
for a screen of the
specified size is instantly
calculated and shown in
the lower right corner.

ON THE ALERT

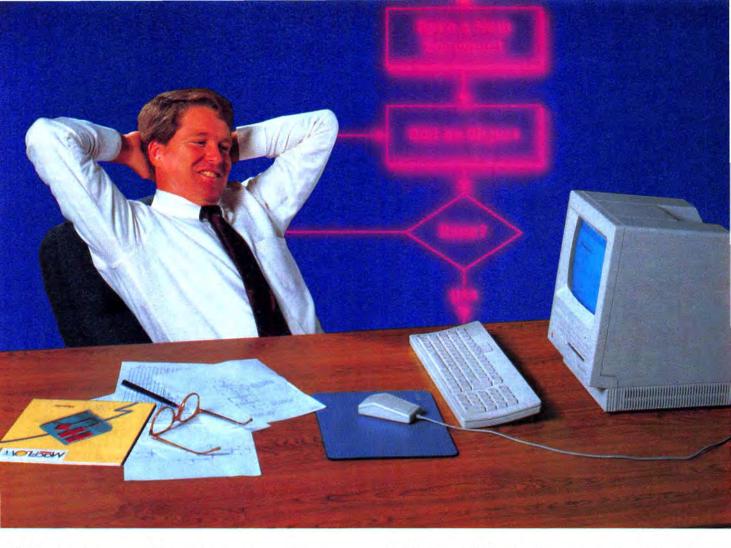
Sooner or later this will come to pass: You've commanded Stepping Out to set up a large screen, and are working away. Suddenly you are unable to manipulate objects, or your text insertion pointer disappears, scroll bars turn white or you hear beeps regardless of where you click or what you press. Your application is probably trying to tell you something. Somewhere in that sea of pixels, there is an out-of-view dialog box waiting for a response. Take a quick mouse-jog around the screen. If you're really baffled, examine your

desktop in a reduced view. With experience, you'll know where each application puts its dialog boxes.

STEPPING IN TEMPO

Stepping Out works well with Tempo, a desk accessory for creating macros, provided you activate Stepping Out first. Be aware that Stepping Out uses COMMAND-OPTION-SPACEBAR, -B, -R, -S, -X, and -2 thru-16 for its functions so you may need to reassign some of your Tempo keys to prevent interference.

Tempo macros can help save time by auto-traveling to distant menus



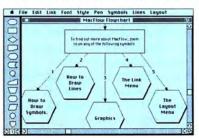
"It seemed so complex, until I did a flowchart" introducing MacFlow 2.0...

Imagine making a complex task seem simple with a quick flowchart!

Fast, clear charts.

Simply drag chart objects into place and connect them with flow lines. Enter text and you're done. Changes are just as easy. Resize symbols and move them around as you like; lines always stay connected. Display entire pages on a large screen. Do multiple page charts and print them on a LaserWriter or ImageWriter printer.

Symbols, your way.Use ANSI standard flowcharting



symbols or custom design your own with MacDraw[™] or any "draw" type program. Cut, copy and paste your chart into PageMaker[™] or your favorite desktop publishing program for reports and presentations.

See the big picture...

MacFlow lets you develop an overall view of work, project, or logic flow. Hierarchical organization allows symbols to be linked to lower level flowcharts. Zoom to increased levels of detail. Return to the big picture with a click of the mouse.

Incredibly useful.

MacFlow is great for designing and documenting flow relations of any type. Use MacFlow for project flow, logic flow, operations flow, software flowcharts, experimental design, organization charts, troubleshooting diagrams and more. Order Today

Improve your workstyle and boost productivity.
Order MacFlow today.

Not copy protected.

Only \$195.

See your dealer today or order direct. Add \$5 for shipping.

In CA add 6.5% sales tax.

For more information, contact Mainstay, 5311-B Derry Ave. Agoura Hills, CA 91301. (818) 991-6540.

In Europe, contact Mainstay at 71 rue des Atrebates, 1040 Brussels, Belgium. (02) 733 97 91.

Mainstay

Please circle 2 on reader service card.

Screening Room

and palettes. When a macro runs, however, *Stepping Out* follows the cursor on its programmed journey and you must then mouse back from whence you came. At least it's a one-way trip.

Generally with Stepping Out activated you can record and faithfully play back macros. You can wander all over your big screen, and be assured that Tempo will reliably and quickly retrace your steps. Excel macros also record and replay perfectly.

However, the combination of Stepping Out, MacDraw and Tempo seems to add "do-nothing" steps to macros during the recording process. These padded macros play back about eight times slower than normal, with or without Stepping Out active. If you record your MacDraw macros before activating Stepping Out, they'll play back fine.

THE OVERHEAD OF OVERSIZE

The advantages of Stepping Out may cost you a modest amount of speed during processing-intensive operations. For example, both Thunder's and MacLightning's batch spell-checking modes run about 25 percent slower, as does Excel's sorting and macro playback. With object-oriented graphics applications, you must use freehand tools more slowly, or your paths may turn out more angular than curved.

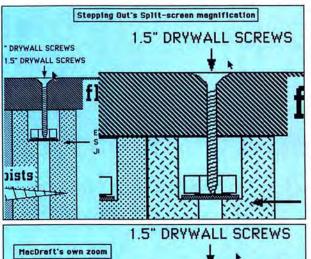
Stepping Out Version 1.1p is more transparent, and needs substantially less overhead than the earlier 1.05 version. Overall, for graphics and layouts, the adaptive steps are quite bearable, and the speed loss is insignificant compared to the time you save and the freedom you gain.

I used Stepping Out with Finder versions 5.3, 5.4 and 5.5 with no problems. With wide virtual screens, you can't see the disk or trash icons unless you mouse over to the extreme right, which moves you out from under the handy Finder menus. Dragging the disk icons into view is only a temporary solution. After you quit an application, the disk and trash icons always reappear at their far-right abodes.

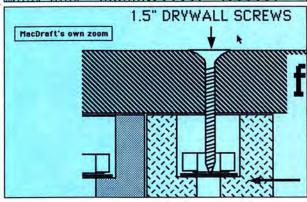
Moral: Don't bother with disk icons. Instead, double-click each disk and drag its opened window into

RAM Requirements for Typical Screen Sizes					
Area In Pages	Width in Inches	Height in Inches	Width in Pixels	Height in Pixels	Needed RAM K
1.0	8.5	11	612	792	141
1.3	8.5	14	612	1008	158
2.0	8.5	22	612	1584	203
1.3	1.1	11	792	792	160
1.6	11	14	792	1008	182
2.0	11	17	792	1224	204
3.1	17	17	1224	1224	270
4.0	17	22	1224	1584	327
5.2	22	22	1584	1584	389
6.0	22	25.5	1584	1836	438
8.0	34	22	2448	1584	562
12.0	34	33	2448	2376	803
16.0	44	34	3168	2448	1035
20.7	44	44	3168	3168	1317
25.0	55	42.5	3960	3060	1561
32.4	55	55	3960	3960	1997

RAM Requirements.
These are very close approximations of the extra RAM you'll need to set up various sizes of virtual screens. Be careful not to stress the limits of your RAM, or some programs may hang or crash without warning.



Divide and Magnify. Stepping Out's variable split-screen magnification provides FatBits anytime. This 2X magnification of a MacDraft image (top) shows the extra jaggies you get with Stepping Out, compared with MacDraft's own zoom function (bottom). Still, it's a passable view, and switching from normal to enlarged view is instantaneous.



view somewhere under the menus. Leave your often-used windows open even when you eject or trash their disks. Whenever you reinsert a disk, its window(s) will reappear, opened and in view. Similarly, you can drag single applications or documents into view before ejecting their disk(s). Sorry, I found no workaround for the self-motivated trash can.

DO YOU COPY?

When you drag icons from disk to disk for copying, you may see the icons disappear from the original disk, and the normal file copy dialog may not appear when you expect it. And most animation effects — like folders zooming in and out when you click to open or close them — are suspended in *Stepping Out*. Don't worry. It's all cosmetic. The

Mac is too busy copying to let *Step-ping Out* display an up-to-the millisecond view. But in the end everything turns out fine. Honest.

On an SE Stepping Out responds slightly faster than on a Mac Plus. And, although Stepping Out version 1.1p doesn't work on a Macintosh II, version 2.0 should.

I tested Stepping Out on a Mac Plus adapted for a Radius Full Page Display. Although I could define a large screen, there was no auto-scroll response when I moused past the visible screen's edges. In their present incarnations, there is nothing to gain by using, or even owning Stepping Out if your Mac has been adapted for an FPD. Future versions of each may change that.

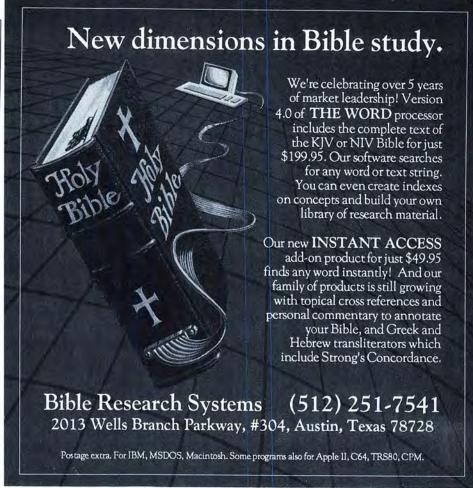
AND STEP ON IT!

Stepping Out is must-see, must-have software, well worth twice its price even if it enhances only one of your bread-and-butter applications. As long as large monitors remain expensive, Stepping Out offers a cost-effective productivity booster for graphics, design and layout.

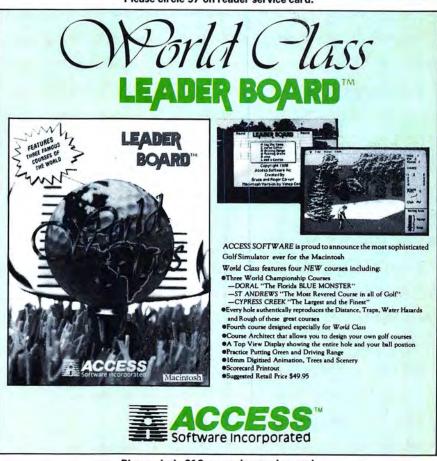
SALVATORE PARASCANDOLO IS A SYSTEMS ENGINEER WITH COMPTEK RESEARCH, A FREELANCE WRITER AND A MACINTOSH CONSULTANT BASED IN SAN DIEGO, CALIFORNIA.

MACUSER RATING Stepping Out \$\$\$\$ Follows Mac Interface Printed Documentation On-Screen Help Performance Support Consumer Value

Comments: An innovative software bridge between "the rest of us" and large-screen monitors. Its value is multiplied by the number of applications it enhances. Maximum virtual screen size is based on available memory. Best Feature: Reduces production time with existing applications by providing effortless access to much more of any document. Worst Feature: Current version scrolls away the menu bar along with the working document area. List Price: \$95. 512K required. Published by Berkeley System Design, 1708 Shattuck Ave., Berkeley, CA 97409. (415) 540-5536. Version 1.1p reviewed. Not copy protected.



Please circle 97 on reader service card.



Please circle 212 on reader service card.

See Mac Read

Personal Writer may not always recognize the

character, but it never forgets a font.

TT WAS THIRD GRADE. I WAS MUCH shorter. Mrs. Latshaw had handed back all of the spelling tests, except for one. "Somebody forgot to put their name on their test. Whoever it is wins the penmanship award this week. Whose writing *is* this?"

I was the only kid who hadn't gotten his test back. But Mrs. Latshaw couldn't believe that it was mine; my handwriting was ridiculous — how could my penmanship have suddenly gotten so good? She showed me the paper, and I immediately recognized the writing as mine. I reproduced some of it. She was flabbergasted.

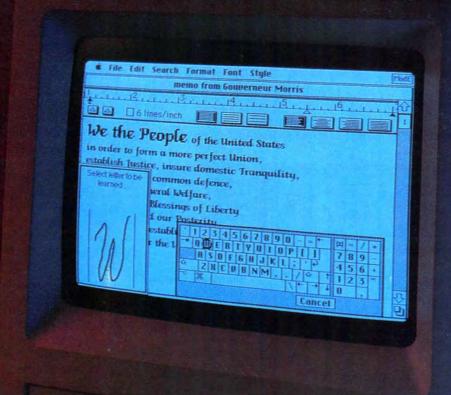
Eventually, we solved the mystery:

I had finally graduated to writing with a real #2 pencil, instead of the standard-issue kids' pencils as thick as your thumb.

Over the years, though, my writing has deteriorated back to the scrawly version that Mrs. Latshaw was more accustomed to. Typing and word processing have made me soft. I write without a keyboard only a few times a month: to sign my name and to write checks (for which you can't use a magic #2 pencil).

But buried in that scrawl of lines and loops is something that I can always decode into letters, even if nobody else can. That makes me ideally suited to test out the Personal Writer

BY JON ZILBER



Mac throsp 2E

See Mac Read

I'W15 S, a tablet-based character recognition system. If it can read my writing, it can read anybody's.

OF MICE AND PENS

Most tablets are intended primari-

ly as mouse substitutes; Personal Writer is intended to replace your keyboard as well. Using Personal Writer, you enter text by writing it on a tablet, instead of typing it on a keyboard. Personal Writer aims to

During the Intensive

Learning Process, you provide Personal Writer

with seven samples of

each letter and digit. It

personal character file.

stores these in your

turn your scrawl into scripture, your autograph into ASCII. That's an ambitious task, and for the most part, the Personal Writer lives up to it.

The hardware consists of a stylus and an 11- X-17-inch tablet less than an inch thick. The tablet's writing area is covered with an 8.25-X-9.5-inch, sticky-side up surface, that holds a sheet of paper firmly in place. Above this is a 2.5-X-3.5-inch area that represents the Mac screen — you can move the stylus around this area instead of moving your mouse — and 50 special function "keys" that you "click" by touching them with the stylus.

The stylus is also a real pen, with ink and everything. So while you're writing, you can look at the paper instead of the screen. The pen also gives you the more familiar tactile sensation of ink flowing (instead of a dry scratchy stylus). And you'll get a hard copy record of your input.

Hooking up the tablet is straightforward. Plug it into your modem or printer port, plug the pen cord into the tablet and plug in the power supply. The Mac-to-tablet plug is a little shaky and fell out occasionally. (Nothing crashes; you just have to realize that's what happened and plug it back in.)

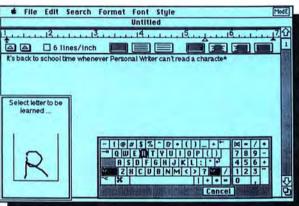
Next, put a piece of grid paper (included) on the tablet. Each time you start a new sheet, you'll calibrate its location by clicking the upper left and bottom right corners, so you don't have to be overly careful about its exact placement on the tablet.

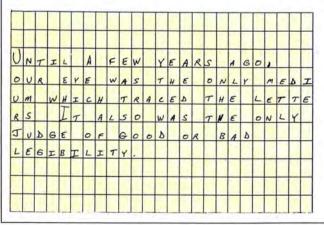
The first time you use Personal Writer, you'll go through an intensive training session, in which you'll write all 26 uppercase letters and 10 digits 7 times. First, attach a printed sheet with a grid of 252 cells (7 for each character) to the tablet. Fill them in any order. As you write each letter, an enlarged trace of what you're writing appears on the screen.

While you're writing, Personal Writer is learning to read your writing, storing and associating each trace with the appropriate letter in your personal character file. You should write normally — don't try to make nice letters if that's not how you're going to write in practice. You'll probably write faster than Per-



The Ongoing Learning process lets you add to the file of acceptable traces for each character. When Personal Writer can't interpret a character, an asterisk is displayed. Double-click on the cell for that character to bring up a keyboard icon, so you can tell Personal Writer how to interpret this shape in the future.





This quote was typed in, then handwritten using Personal Writer, A few misread characters were corrected "on the fly" (using backspacing or overwriting the character). Three mistakes remain: an uninterpretable T (displayed as an asterisk), an F misread as a K and a period misread as a U. The written input shows that the misread characters look similar to letters that Personal Writer was able to read correctly.

Direct Drive Series

Affordable, reliable performance for *all* of us.

20 to 160 megabytes: a full spectrum of drives to meet every user's needs. The Direct Drive Series put all of us in business. Their excellent construction, high reliability and no cost "extras" have won them a wide following. Just look at what you get:

- · Pre-formatted, they work right out of the box.
- · Three way surge protection.
- The original external SCSI select switch plus a terminator access panel.
- · 10"x10"x approximately 2"high, they fit neatly beneath the Macintosh.
- Free 2'SCSI cable. 6'cable available for small additional cost.
- · Back-up software plus 9 MB of shareware and PD software.
- · Full 1 year limited warranty.

We also include the quality support and service you expect from Jasmine.

JasPort: SCSI Power for the Macintosh 512

fasPort—our Macintosh Plus compatible SCSI port for the Macintosh 512 Enhanced or 512K with ROM upgrade—permits Macintosh users to take advantage of Jasmine's DirectDrives, MegaDrive, and other SCSI devices. User installable. \$129(casb/visa/MasterCard)

Technical Specs: Direct Drive 20, 40, 50, 80 and 160

Orive:	20	40	50/80	160
Capacity, after formatting:	21Mb	40Mb	51Mb/77Mb	150.1Mb
Track to Track	20 msec.	8msec.	5 msec.	4 msec.
Average	65 msec.	40 msec.	26 msec.	16.5 msec.
Maximum Seek	150 msec.	95 msec.	38 msec.	43 msec.
Average Latency	8.33 msec.	8.33 msec.	8.2 msec.	8.33 msec.
Mean Time Between Failure:	20,000 POH	20,000 POH	25,000 POH	30,000POH
AC Outlete		SCSI cont	roller	Print

s-way with ground Fully fused

Rated Capacity: 7 Amps
Switched: At power on
Surge Protection: Protects drive

SCSI controller:

Transfer rate (per second) maximum: 1.25 Mbytes, supports 1:1 interleave.

Protects drive and outlets

To Order Call (415) 621-4339

Remember that Jasmine saves you 40% or more.

Every drive is shipped with a technical hotline number to answer any questions. Drive Drive 20, 0, 50, 80, and 160, Jasmine, are trademarks of Jasmine Technologies, Inc. Product specificaions and prices are subject to change. Prices include 2'cable and PD software. Prices do not notude shipping, CA sales tax (6.5%) or special rush handling. Macintosh is a trademark icensed to Apple Computer, Inc.



MacUser

Eddy 1987 Best New

Hard Disk

Please circle 58 on reader service card.





See Mac Read

sonal Writer can read, but it will catch up.

Although you input seven versions of each letter, Personal Writer ignores duplicates — traces that it deems sufficiently similar — to minimize the amount of memory required for your character file. (Storing a lot of excess traces slows down the recognition process, eats up memory and can increase the confusion caused by problem letters pairs, like capital O's versus zeros.) Person-

al Writer defines each character you teach it by storing information about the sequence and timing of penstrokes, as well as a bit-map of what the letter looks like.

After this initial training session, you're ready to write. Put a fresh sheet of grid paper on the tablet (and reset the paper placement). Open up a word processor and start writing some text. You'll probably be awestruck the first time you see Personal Writer magically transform your

writing into actual letters on the screen.

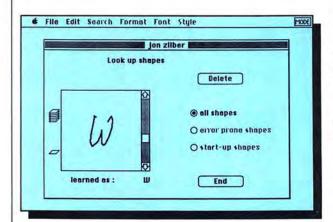
If you raise your expectations too high, however, awe can turn to frustration as you meet your first unrecognized characters. Whenever Personal Writer can't tell what a character is supposed to be, it substitutes a user-specified symbol (like * or ?). Double-click on the cell containing the questionable letter, and you'll get your first taste of the Ongoing Learning process.

ou'll probably be
awestruck the
first time you see your
writing magically
transformed into actual
letters on the screen;
awe can turn to
frustration, however, as
you meet your first
unrecognized
characters.

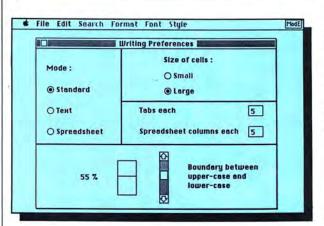
In this process, Personal Writer first shows you a trace of the character as you entered it. Usually, the trace is a faithful rendition of what you wrote, and you should tell Personal Writer how to interpret this trace in the future. You can type the letter on the keyboard or move your pen to the appropriate spot on an onscreen image of the keyboard and click on the right letter. Personal Writer adds this trace to your charac-

Sometimes you'll see a "bad" trace when you double-click an unrecognized letter that you don't want Personal Writer to learn. When this happens, hit Cancel on the keyboard image (which tells Personal Writer not to learn this character) and rewrite the character again in the same cell.

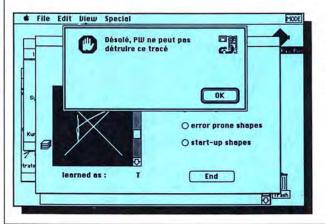
Sometimes these bad traces are



Periodically, you can scan your character file to identify problematic letter shapes. You can delete individual traces or the entire start-up file of characters. Personal Writer can also identify error-prone shapes (for example, 0's versus zeros, ones versus I's).



Personal Writer has three document modes — Standard, Text and Spreadsheet — for readin' your 'ritin' and 'rithmetic. This dialog box also lets you set the boundary height for upper- versus lowercase letters.



Personal Writer's French heritage occasionally reveals itself, as in this dialog box. (Translation, for très déclassé readers: "Sorry, PW cannot delete this trace.")

ter file.





Technical Specs: InnerDrive 50,90

Drive:	50/II	90/II
Capacity, after formatting:	51 Mb	88.0 Mb
Access Time		
Track to Track	5 msec.	4 msec.
Average	26 msec.	16.5 msec.
Max. Seek - Full Stroke	38 msec.	43 msec.
Average Latency	8.2 msec.	8.33 msec.
Mean Time Between Failure:	25,000 POH	30,000 POH

SCSI controller:

Transfer rate maximum: 1.25 Mbytes/sec., Supports 1:1 interleave.

Every drive is shipped with a technical hotline number to answer any questions. Jasmine and InnerDrive are trademarks of Jasmine Technologies, Inc. Product specifications and prices are subject to change. Prices include 2'cable and PD software. Prices do not include shipping, CA sales tax (6.5%) or special rush handling. Macintosh is a trademark licensed to Apple Computer, Inc.

Now that your Mac's open for business, let Jasmine provide the inventory.

Jasmine's InnerDrive Series brings you high speed, yet economically priced, internal hard disk drives for the Macintosh.™ Pre-formatted, they work right out of the box and are very easy to install requiring no special tools or expertise. These self-parking drives include mounting bracket, cables and other hardware plus nine megabytes of public domain software, shareware and back-up software. Plus a full 1 year limited warranty. We also include the quality support and service you expect from Jasmine.

InnerDrive 90/II: \$1499 (Cash/Visa/MasterCard)

InnerDrive 50/II: \$999

To Order Call (415) 621-4339

Remember that Jasmine saves you 40% or more. Our prices include a Full One Year Warranty.



See Mac Read

your fault, sometimes they're Personal Writer's. Your hand might have slipped, or you might have overlapped two letters in one cell. Or Personal Writer might have missed a stroke (rarely) or might have misinterpreted part of a pen stroke as an overstrike command (often).

MINDING YOUR P's AND Q's

Overstriking is one way of correcting mistakes: draw a horizontal line through a character, word or line and Personal Writer erases it from the screen. Another way of correcting mistakes is to simply write over them. The problem is that lots of characters (T, for example) begin with horizontal lines, so Personal Writer often reads that initial stroke as an overstrike, and you end up with a letter missing a horizontal line. (For example, a T gets interpreted as an I.) This can turn into a vicious cycle when you go to overstrike or overwrite the misinterpreted character. If you get the timing just right pausing slightly after the overstrike, but not hesitating in the middle of a character - you won't have this problem — but it's not easy.

You can (and you will) make corrections in other ways, too. You can teach Personal Writer a backspace character and write it, hit the backspace key on the tablet, or use any of the usual mouse/keyboard methods of editing. This wealth of ways to correct text is well-intentioned, but often results in overwrite versus overstrike confusion. And if you move your pen even a little when you double-click on an unrecognized letter, Personal Writer may interpret that action as a character (for example, a period or a comma), not a double-click. Double-clicking can also make the text insertion point jump unexpectedly. Once this happens, your tablet and the screen can fall out of synch, making it difficult to edit. Too much power, too many options.

If you get a stream of unrecognized characters, resist the urge to just press harder on the pen — it doesn't help any more than banging harder on the elevator buttons makes the elevator get there faster. There are better tactics.

BACK TO SCHOOL

A click on a key on the tablet will take you back into the intensive training mode if you decide you and Personal Writer need some serious remedial work. Another way to improve recognition is to examine your entire character file (available via another tablet key) and weed out any misfit characters that may have slipped by in the learning process. And the process of looking over all your letters may suggest ways to change your writing to make it less ambiguous.

After you've built up your letter library (from the Intensive Learning

ou can just as
easily teach
Personal Writer to
recognize graphic
versions of other
alphabets, like Braille or
Morse Code.

process and an hour or two of practice), you may want to delete the Start-up File of characters. These are stock letters automatically included when your personal file was created. If you have non-standard ways of forming some of your letters, the standard characters may hinder their recognition. An option in the Ongoing Learning dialog box lets you delete these individually or all at once.

Another option in this dialog searches for error-prone shapes (close matches, such as O's and zeros, L's and C's, and I's and ones). You may want to delete these traces, and add new ones, using more distinct letter forms for your problem letters. (For example, you could slash your 0's and cross your 7's, use top and bottom crossbars on your I's, and so on.)

Personal Writer is too diplomatic: It lets you keep your ambiguous writing style if you insist. The result can be a high percentage of mistaken letters. A more dictatorial approach is called for. Remember those grade school teachers who told you to write it their way and not ask questions? That kind of imposed conformity might be unduly oppressive for intra-human communication, but when dealing with a computer, it's a necessary evil. It's nice of Personal Writer to give you the freedom to be a slob, but I'd rather suffer a little humiliation over my penmanship than face endless misread characters.

Ideally, Personal Writer should be a benevolent dictator, categorically refusing to accept potential ambiguities, while offering constructive suggestions on ways to make your writing more legible. It would be nice to have some kind of diagnostics in the Ongoing Learning dialog box explaining, for example, why an A that, to me, looks like all my other A's was not recognized. For example, it could tell me that the unrecognized character had a similar bit map to an A, but was created using a different sequence of strokes. On other traces, perhaps an arrow could point to problem areas in the traces with comments like "It's hard for me to tell O's from U's if you don't close the loop" or "If you slash your zeros, it would be easier to distinguish them from O's."

However, the reasoning behind these kinds of hypothetical smart dialogs would require a fair amount of artificial intelligence (see sidebar) — more than what could be done today, given price and memory constraints.

A less sophisticated way of upping the recognition rate would be to have Personal Writer suggest appropriate drill phrases that stress the problem letters (for example, "007 IS COOL" if O's and O's and L's and C's are causing confusion) as part of the remedial learning process.

THE OTHER 26

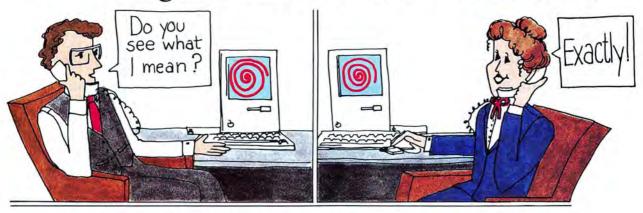
Somewhere around here (or before) you noticed that nothing has been said about lowercase letters. You only teach the program your upper case letters. Does that mean all your writing must be done in capitals? Not at all.

Personal Writer uses a clever, and

Desktop Express



because great minds seldom think alike.



The Meeting of the Minds With Desktop Express™ software, the great mind in New York can see what the great mind in L.A. has been trying to say.

Send text *and graphics*, using a Macintosh[™], a modem and MCI Mail[®], to your associates in the next office, or in the next state. With this new electronic mail and document delivery service, they'll get the picture clearly anytime – day or night – via MCI Mail.

Desktop *Express* extends the 5 o'clock "express" deadline, so working across time zones can be as efficient as working across the hall. And, it replaces those fuzzy facsimile figures and forecasts with high resolution graphic presentations. Send ideas back and forth in a matter of minutes and accomplish in an afternoon what would normally take several days of overnight courier exchange.

Created by Dow Jones, Apple, and MCI, Desktop *Express* works with the Macintosh software programs you've come to rely on. Create a business plan complete with charts, graphs and spreadsheets. Send it to any of your associates who have Desktop *Express*. They can review the plan and even print it – all *without* the software program you used to create it. But if they do have the program, and Desktop *Express*, they can revise your document on the spot and return it to you.

For your associates who don't own a Macintosh, Desktop *Express* still delivers. Direct your documents electronically to an MCI Mail Print Center. There they will be printed on a laser printer and delivered via postal or overnight delivery.

With Desktop Express, your big ideas will get looked over, not overlooked. So, for the Apple Dealer in your area call 1-800-538-9696 Ext. 350.

Desktop Express. Now, great minds don't have to think alike to get the picture.

DowJones[®]

See Mac Read

relatively painless, stratagem to cut its character recognition task in half: it only needs to learn capital letters. It distinguishes between upper- and lowercase letters by their height. You set an imaginary line to a user-specified height (typically 50% to 60% up the vertical); letters that exceed this height are caps, letters below it are lower case. You can teach Personal Writer to recognize both upper- and lowercase versions of a letter (such as "a" and "A"), but it still determines upper- versus lowercase on the basis of height, not shape. If you use both upper- and lowercase in your Personal Writer application, you can customize your grid paper to show the cut-off line at whatever height you've set it.

IT'S A MODE, MODE, MODE, MODE WORD

If you need only upper or only lowercase, you can set Personal Writer for either mode exclusively, using the appropriate tablet key. There's also an all-numeric mode. Using any of these restricted modes makes Personal Writer's job easier and usually improves the percentage of characters it correctly identifies. Redoing the paper positioning process even though you haven't changed sheets - may help improve the recognition rate, especially if you change modes frequently.

Personal Writer will learn whatever characters you teach it. That includes tab and return symbols, or other action keys. And you're not limited to the standard alphabet. You can just as easily teach Personal Writer to recognize graphic versions of other alphabets, like Braille or Morse Code. Or secret codes. (Or UPC, if that's your native tongue.) If you're ambitious, you can even invent your own optimized alphabet of symbols that are easier to differentiate than standard letters.

In addition to character modes, Personal Writer has three page layout modes. In Spreadsheet mode, you can associate the grid on your page with columns on a spreadsheet. For example, if you have five-digit numbers on your spreadsheet, you could specify that every fifth cell automatically starts a new column

If U Cn Rd Ths, U Shid B N Al

Character recognition is one of the classic — and most difficult — problems of artificial intelligence. It's one of those things that comes so naturally that we don't realize just how difficult it is. Consider the letters in Figure 1. There's no question that they're all A's, even though they all look different. There's sloppiness, differences in orientation and personal idiosyncrasies. But an ideal character

recognizer would call all of these shapes A's.

There are basically two ways to go in the character recognition game. The difference between the two ways is similar to the difference between bit-mapped and object-oriented graphics. You can match the pixel pattern created by the input for a letter bit for bit against a bank of character templates and find the one with the closest fit. This can be time consuming, and can lead to some judgment calls that would be ridiculous from a human standpoint. For example, an M with little space between the last two strokes matches the bitmap for an N more closely than an M, even though most human readers would know it as an M when they saw it.

This suggests the second approach: object- or vector-analysis. This involves breaking each character into a pattern of components, such as left-to-right lines, right-to-left lines, up-to-down lines, down-to-up lines, curves, angles, and so on. In a vector-based scheme, the M could not be misread as an N, since M's consist of four lines, and N's have only three. But vector schemes are not infallible, either. And they give you less freedom to write inconsistently, since they analyze the process, rather than just the result. So, for example, if you missed the first stroke in your M and went back to make it later, a hypothetical (and naive) vector scheme might call the result a W, (since it was formed from the series of strokes - down, up, down, - that characterizes a W).

Personal Writer uses a combination of both approaches. It leans most heavily on matching bit maps. But it also watches the sequence and timing of pen strokes. It has to do this if it is going to be able to decide whether a horizontal stroke is an overstrike or the first line of a rewritten letter. And, consequently, it might not

An A is an A is an A ...

In a bit map character recognition algorithm, a sloppy M might be mistaken for an N, if the last two strokes are too close together.

(without having to tab between columns). Unfortunately, all the columns must have the same width. In Spreadsheet mode, you can jump back to an earlier spreadsheet cell to make corrections. However, you can't generate a cell reference by simply pointing to a spot on the tablet, as you can with your mouse (in spreadsheets like Excel).

There's also a (meaninglessly named) Text mode. This tells Personal Writer to recognize skipped

lines and to put an initial tab at the start of each line if a specified number of cells are left blank (but does not recognize these blanks as a tab if you're in the middle of a line). In Normal mode, skipped lines and spaces are generally ignored. The last word in a line must have at least one space after it, otherwise a word wrap feature kicks in. So whenever a word ends in the last cell on a line, you'll have to leave the first cell of the next line blank.

recognize an A that looks almost identical to an A in its dictionary; the difference lies in the order or timing of strokes.

There's a trade-off between more sophisticated recognition algorithms and memory and speed considerations. And Personal Writer has found a nice balance, for the applications it's likely to be used for. But for a more widely useful device, more sophistication will be needed. An alternative to straight character schemes is to use context. In Figure 4, the same shape can be a slanted H or a not-quite-closed

A. The context — the surrounding letters — makes the difference clear.

What's needed is similar to a crossword puzzle dictionary that checks for all possible matches to a word with one or more ambiguous letters missing. If there is only one match, the problem is solved. More sophisticated artificial intelligence algorithms could also guess what part of speech the word represents, to further refine the search and eliminate choices (hopefully whittling down the number of possibilities to one).

Parsing sentences is a monstrously difficult task to program if you have to operate on a large vocabulary. But most text is comprised of a relatively small basic vocabulary, and most applications (for example, business, medicine, etc.) would have an even smaller repetitive vocabulary. A context-sensitive dictionary of even a few of the most common words or phrases could boost the recognition algorithms

substantially.

Handwriting recognition could prove to be only a stopgap measure in input technology if speech recognition technology ever becomes affordable. Speech recognition is algorithmically similar to writing recognition in many ways. But spoken language adds even more dimensions for ambiguity, such as a speaker's pitch, inflection and regional and national accent.

Training the machine can overcome these problems. More fundamental is the confusion resulting from sound-alike words and the difficulty in knowing where one word leaves off and the next begins (for example, "illegal unit" and "ill eagle you knit"). So context-sensitive clues for eliminating meaningless interpretations are

even more critical in speech recognition technology.

TAE CAT

In a naïve vector-based algorithm, an M could be mistaken for W if the order of strokes was inadvertently changed.

An A is an A — unless it's an H. The same shape can be interpreted as two different letters, depending on the context.

Personal Writer also has two drawing modes. Freehand mode uses a portion of the tablet as a drawing area. (You can also draw in the small mouse area, but you'd have little control or precision.) Scheme drawing mode is designed primarily for working with object-based drawing tools. To draw a rectangle in Scheme drawing, for example, click on the rectangle tool, click the first corner, raise your pen, and then click the far corner (instead of dragging your pen

from one corner to the other). An advantage of this mode is that it doesn't leave a meaningless mess on your paper (which might be an original piece of art, or a hard copy record you want to save).

Both drawing modes use absolute positioning. That is, a spot on the tablet always corresponds to the same spot on the screen. With absolute positioning, the placement of new lines is not dependent on the current position of the cursor; you can easily pick up where you left off with a drawing.

By and large, the hardware and software interfaces are excellent. There are a few problems, some of them the inevitable result of reasonable compromises. The parts of the tablet not covered with paper get covered with ink. You can remove most of the mess with an eraser or detergent. If you wait too long between cleanings, the accumulated ink can impede the smooth flow of the pen-tablet contact. It can also be messy. (A pen cap or retractable tip would help.) I had the same problem with the tablet that I have with carbonless forms: if you put other papers on top of the tablet and write on them, you get gibberish underneath.

The mouse area at the top of the tablet has no markings to guide you around except for a menu bar. A few other screen landmarks would be nice (like the Apple menu, or an outline of the keyboard that appears during the Ongoing Learning process).

The manual covers all the bases for getting started in a straightforward and clear fashion. It is not without problems, however. There are some occasional curious translations and phraseology (Personal Writer's parent company, Anatex, is based in France), such as "If you click with your pen the scroll box, the corresponding character is displayed." The manual also speaks rather formally of "tabulations" (instead of plain old "tabs"). One note suggests that you can clean the tablet surface with alcohol or liquid cleansers, but to avoid "ether."

The manual is a little over enthusiastic in suggesting that "Once you have opened your personal Character File you can dispose of the keyboard and mouse altogether." And it has a tendency to generalize; it states that certain applications show certain quirks with Personal Writer, but rarely names names. The manual also notes that you can select between large- and small-celled grids (with the large grid having a 25-X-19 cell configuration) but it never mentions the small-celled version (nor is a sample sheet of this grid included).

Also, a couple of warnings are buried in the wrong sections. For exam-

See Mac Read

ple, at the end of the section on how to customize the data entry grids into customized forms, there's a note mentioning that the Ongoing Learning process doesn't work in some data base applications. This note should be more prominent, and it would be nice to know which programs they have in mind.

The manual does offer some use-

ful suggestions on how to customize the grids into your own forms by putting labels in the cells. (Unfortunately, the only example included is an order form for additional Personal Writer equipment.) Data entry is one of the most appropriate applications for Personal Writer, since clerical applications often use restricted alpha or numeric alphabets (making

it easier to achieve higher character recognition), and their repetitive nature favors writers who will input letters more consistently. Personal Writer also has a macro feature for improving data entry productivity: You can trigger several command key equivalents from macro keys on the tablet, or program your own. You can also use a macro to recall a block of up to 255 characters of frequently used text.

Personal Writer requires a fair chunk of RAM. The program itself takes up 624K, and your writing file could easily take up 100K. The program also needs some room for scratch files. With a 1-megabyte SE, I didn't have enough room to load Word 3.0. If memory is a problem, select the stripped-down version of the program (in which Personal Writer can't learn any new charac-

ters) to save 144K.

I came across only a few programs that were incompatible with Personal Writer. The program wouldn't launch successfully until I removed NetModem from my system folder. BigCaps (a Keycaps-like DA) seems to interpret every character from the tablet as a lowercase "a". Scheme mode drawing was problematic in Ready, Set, Go! 3.0. Since Personal Writer puts an icon telling you what mode you're in (all uppercase, all lower case, mixed cases, numeric, freehand drawing or scheme drawing) in the upper right corner of the screen, you'll probably want to disable any DAs (like JClock) that also use that corner. And; at present, Personal Writer is incompatible with HyperCard and MultiFinder.

Files containing master graphics for all the grids you'll need are included. You'll have to run them on an ImageWriter (or photocopy the samples included), since they exceed the LaserWriter's margins. (The originals could have been better quality; you may want to create your own grid forms with, for example, non-repro blue grid lines.)

RX FOR DOCTORS

Personal Writer is an impressive debut. The product is nicely designed and surprisingly robust (both the software and the hardware -

Macintosh Memory **Expansion Kits**



- Fast, powerful 1 Megabyte SIMM Modules use Micron's own American-made 1 Megabit CMOS DRAMs
- Mac Plus and SE: 2 Meg Kit, suggested retail \$599—4 Meg Kit, suggested retail \$1199 (add \$10 for Plus and SE kits with access tool)
- Mac II: 1 Meg Kit (256K modules), suggested retail \$249—4 Meg Kit, suggested retail \$1199—8 Meg Kit, suggested retail \$2399
- Easy 15 minute installation—kits are shipped with installation guide and an access tool is available with Mac Plus and SE kits
- Compatible with all Macintosh software
- No waiting—immediate availability
- Micron SIMM Modules undergo the toughest tests in the industry to ensure high reliability and quality
- Warranted for 2 years to registered users
- Micron customer service includes a toll-free customer hotline to answer your questions
- Now Available: Macintosh II Video Card Expansion Kit, suggested retail \$140
- Soon to be released: Micron's Macintosh II Memory Card

Micron Technology, Inc. Systems Group 2805 East Columbia Road Boise, Idaho 83706

1-800-MICRON-1 (208) 386-3800



Macintosh, Mac SE, Mac Plus, and Mac II are trademarks of or trademarks licensed to Apple Computer, Inc.

Please circle 81 on reader service card.

"A Gigabyte Plus Drive"

45 MEGABYTES AT A TIME

Removable Cartridge Winchester

NO TAPE* NO FLOPPY* NO BERNOULLI*



...only high performance winchester (25 msec. average access time) with 45 megabytes of formated data in a small compact removable cartridge.

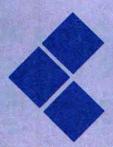
The CM-45 removable cartridge winchester disk subsystem represents an unusual opportunity for the Apple Macintosh ™ family of computers as it provides true high performance winchester speed and reliability with all the advantages of removable cartridge storage.

* No other product on the market offers these advantages at any price.

Custom Memory Systems, Inc. drives for your consideration:

CM-45-one 45 MB cartridge drive - \$1795.00 CM-2/45-two 45 MB cartridge drives - \$3095.00 CM-144/45-144 MB/45 MB cartridge - \$4795.00 CM-144-144 MB fixed drive - \$3495.00 CM-246-246 MB fixed drive - \$5995.00 CM-336-336 MB fixed drive - \$7495.00

Call for Dealer Pricing Education & Non-Profit pricing.



Custom Memory Systems, Inc.

826 N. Hillview Dr. Milpitas, Ca. 95035 (408) 263-8011

Macintosh is a registered tradmark of Apple Computer Corp.

See Mac Read

which survived an unintentional 3-foot fall). The learning process is about as fast as it could be. But even after extensive training, its percentage of characters recognized is still too low for you to "dispose of your keyboard and mouse altogether." For neat and consistent writers, rates of over 95 percent may be obtainable, but this may still be unsatisfac-

tory for text-intensive applications.

Personal Writer plans to release improved software (such as adding an on-line dictionary to help Personal Writer make educated guesses about unrecognized characters). And improved hardware is also planned to increase the tablet's resolution from 200 dots per inch and 60 points per second to 800 dots per

inch and 200 points per second.

In short, it's a great product — but for whom? With anything short of 98 or 99 percent character recognition, typing is probably easier, even for the hunt-and-peck crowd. And those computer-using executives who won't type at all — the ones the computer companies are always wooing with easy-to-use systems — probably won't have the patience for the Personal Writer training process, either (painless as it is).

The combination of character recognition, tablet graphics and macros makes Personal Writer a nice possibility for some data base applications. Personal Writer would be great for teaching kids to write legibly, but it's probably overpriced for the education market (which still shies away from Macs in the first place). The less price-sensitive medical market might be interested in Personal Writer as a therapeutic tool for patients that need eve-hand motor skill training. (Or to correct the notoriously bad handwriting of physicians.)

But, for now, most of us will probably keep relying on the old reliable technology, like keyboards and mice. And #2 pencils.

UPON CLOSE EXAMINATION, FEATURE EDITOR JON ZILBER'S SIGNATURE CONSISTS ENTIRELY OF VOWELS.

MACUSER RATING Personal Writer PW 15 S

tttt

Follows Mac Interface
Printed Documentation
On-Screen Help
Performance
Support
Consumer Value

None
■ ■ ■ □
■ □ □

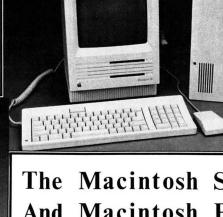
Comments: A tablet-based handwriting recognition system, with tablet graphics and macros. Best Feature: You can input anything — text, graphics and commands — from the tablet, simplifying data entry and increasing productivity. Worst Feature: The number of misread characters is too high for general word processing applications. List Price: \$895. Published by Personal Writer, 1801 Avenue of the Stars, Suite 507, Los Angeles, CA 90067. (213) 556-1628. Requires at least 1 megabyte of RAM. Software not copy protected.

ExpanSE & ExpanSE Plus

Accelerator Cards
Large Screen Displays
Communications Cards

MS-DOS Cards

Industrial and Instrumentation Interface Cards



The Macintosh SE And Macintosh Plus Expansion Chassis from SECOND WAVE, Inc.

If you want to expand the functionality of your Macintosh SE™ or Macintosh Plus™, you need an expansion chassis system from Second Wave, Inc. ExpanSE™ and ExpanSE Plus™ enable your Macintosh SE and Macintosh Plus to work with a full array of Macintosh SE option cards.

of Macintosh SE option cards.

ExpanSE expands the single option card capability of the SE to four by providing an external expansion chassis that plugs into the Macintosh SE and accommodates four SE option cards.

ExpanSE Plus gives the Macintosh Plus user the ability to use four SE option cards with the Macintosh Plus through the use of the ExpanSE chassis and a Macintosh Plus interface card. Using ExpanSE and ExpanSE Plus, you can custom configure your

Macintosh SE and Macintosh Plus with a variety of SE option cards: accelerator boards, large screen displays, communications cards, IBM® compatible coprocessor cards, industrial and instrumentation interface cards, etc.

ExpanSE and ExpanSE Plus come complete with an interface card which connects to the SE or Plus motherboard, internal and external cabling, and the expansion chassis which contains an 80-Watt power supply, cooling fan, the expansion chassis motherboard with four 96-pin connectors to mount four SE cards, and five I/O ports (replicating the single SE I/O port). ExpanSE and ExpanSE Plus can be positioned vertically or horizontally on the desktop. With the chassis extension cables, you can even

position the chassis underneath the desk. ExpanSE and ExpanSE Plus carry a one-year warranty and retail for \$995.

one-year warranty and retail for \$995. ExpanSE and ExpanSE Plus expand the capabilities of the Macintosh SE and Macintosh Plus. Dealers can use ExpanSE and ExpanSE Plus to display and demonstrate the variety of SE option card products available for the Macintosh SE, and now, for the Macintosh Plus.

To order ExpanSE or ExpanSE Plus or to request further information, contact your nearest dealer or:



Second Wave, Inc. 9430 Research Blvd. Echelon II, Suite 260 Austin, Texas 78759 (512) 343-9661

Please circle 172 on reader service card.

THUNDERSCAN FACE-OFF.





WHICH SCANNED IMAGE COST NEARLY TEN TIMES MORE TO PRODUCE?

It's tough, isn't it. They both look great. But the image on the left was digitized by a scanner that costs over \$2,000. The image on the right by ThunderScan. The scanner that replaces ImageWriter's ribbon cartridge. Just \$249 complete.

Now, we'll admit, the more expensive scanners are faster than ThunderScan. But what we lack in speed, we make up for in software power. And that can actually save you time in the long run. Because with ThunderScan there's no rescanning an image to get it right.

ThunderScan saves true gray shades. So once an image is scanned, you can change it any way you want. As many times as you want. Control contrast and brightness. Create special effects. Take your image at face value or enhance it to your art's desire.

ThunderScan also gives you true halftones. So you can tap the full resolution of your printer.
(We tapped the Linotronic® 300 for the above images, but you can use your ImageWriter™ or LaserWriter™).





Use LaserWriter to create line screens

Now you can plug high-resolution halftones into your PageMaker,® Quark XPress™ or ReadySetGo!™ documents. Or use your scanned images with painting and drawing software like Illustrator™ and LaserPaint.™

ThunderScan's special effects include straight line screens, rotations and frames. Plus, you get a lasso for working with irregular shaped areas. And with our new Power Port,™ ThunderScan is Macintosh™ Plus and SE compatible, right out of the box. No wonder ThunderScan was recently voted "Best Digitizer/Scanner" in Macworld's first annual World Class Awards.

So if you want a sophisticated, high-resolution scanner and like the idea of saving money, the choice is as plain as the nose on your...well, you get the picture. Now get yourself a ThunderScan.



*ImageWriter, Wide Carriage ImageWriter and ImageWriter II. Macintosh, ImageWriter and LaserWriter are trademarks of Apple Computer, Inc. PageMaker is a registered trademark of Aldus Corporation. XPress is a trademark of Quark, Inc. ReadySetGol is a trademark of LaserWare, Inc. LaserPaint is a trademark of LaserWare, Inc. © 1987 Thunderware, Inc.

F L A S H C A R D S

EDITED BY LAURA JOHNSON AND VICTORIA JUAREZ

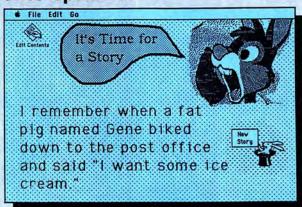
Has anybody figured out what HyperCard is yet? An application? System software? A universal data standard that lets you store text, data, graphics, sound and even logical structures in a common format that can be shared by diverse applications? An intuitive programming tool that does to programming languages what calculators did to log tables? A dessert topping?

We're pretty sure it's not that last item, but whatever it is, the stacks keep stacking up. It's still too soon to subject stackware to our grueling reviewing process. So while the stackware authors get their bearings, we'll be giving you a glimpse of what HyperCard can do in Flash Cards. We've collected some of our favorites in the following pages. (You can find the shareware and freeware

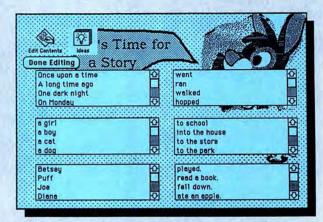
stacks on bulletin boards and the commercial stacks at your local software emporium.)

Some of these stacks are neat products; others are neat ideas. We hope they inspire you to create your own *HyperCard* stacks. And we hope you'll send a copy of your stack to Flash Cards, c/o *MacUser*, Suite 250, 110 Marsh Drive, Foster City, CA 94404.

Once Upon A Time

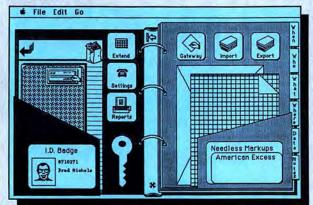


A "choose your own" story stack. Change field contents to add familiar words or names and to gear the reading level to your child. Use with MacInTalk to listen to the story. Start by

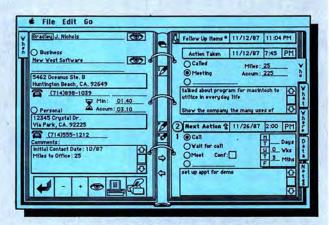


clicking on Br'er Rabbit's nose. Story Machine is swapware by Dick Walker, CompuServe 71310,126.

Big Boss



This organizational software package has full data security with multiple passwords plus enough features to delight even the most scrupulous management executive. Executive Life



by New West Software, 5462 Oceanus, Suite B, Huntington Beach, CA 92649.

Three smart steps to doin'the "Mac."



1. While you print in the background, run in the foreground.

floppy disk for efficient background printing. Faster than any other spooler around, SuperLaserSpool makes a great partner for any Mac 512e and up and any Apple* printer, with or without MultiFinder.™ It gracefully handles multiple downloaded fonts and keeps pace with the latest versions of Macintosh® applications. In fact, it's even optimized to correctly spool PageMaker™ files. Some performance!

For networks, get the 5-diskette Multi-User Super-LaserSpool. Or choose SuperSpool™if you print exclusively with an ImageWriter.8

SuperLaserSpool: \$149.95

Multi-User SuperLaserSpool: \$395.00

SuperSpool: \$99.95



Z. Back-up.

DiskFit™ makes that crucial step of backing up your hard disk such a breeze you'll find yourself doing it again and again. DiskFit backs up your data on floppy disks, Bernoulli* cartridges, DTC/Kodak cartridges, another hard disk or 3M DC 2000 tape cartridges. It knows its way around the disk so well

that it backs up on a file-by-file basis, requesting additional backup media only as it needs them. It conveniently keeps your files in a finder accessible format. And with MultiFinder, DiskFit runs in the background, automatically keeping your data compact, safe and secure. For AppleShare™ or TOPS,™ Network DiskFit will back up your servers and your workstations with full ownership attributes intact. How's that for a neat turn?

DiskFit: \$99.95

Network DiskFit: \$395.00

incredible 5 seconds. And our intelligent "WorkSet™" feature keeps track of protected files for you. Just enter one password and you

can lock or unlock all the files in the setin one swift move. Sentinel: \$295.00

© 1988 SuperMac Software Trademarks: SuperMac: SuperLaserSpool, SuperSpool, DiskFit, Sentinel, SuperCrypt, WorkSet. Apple: MultiFinder, Finder, AppleShare. Sun Microsystems: TOPS. Aldus: PageMaker. Registered: Apple: Apple, Mac, Macintosh, ImageWriter. Iomega Corporation: Bernoulli. Prices listed are suggested retail price.



SuperLaserSpool, our smart print spooler, keeps you

and your Mac* stepping out in the foreground-where. you belong-while it routes your files to your hard or

> Visit your SuperMac dealer or order direct: (800) 952-6300, ask for Dept. 911. (In CA: 800-423-4440, ask for Dept. 911.)

SuperMac Software 295 N. Bernardo Ave. Mountain View, CA 94043 (415) 962-2900

SuperMac Europe Langley Business Center 11-49 Station Road Berkshire SL3 8YL







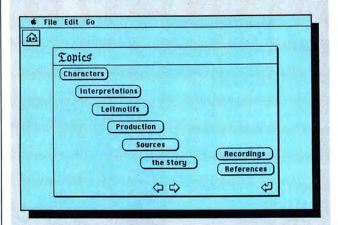
Locking sensitive files is the only step for anyone who works with confidential or private data. Now our encryption utility, Sentinel,™ makes it so easy you'll waltz through it. For example, protection of your documents occurs right on your desktop: protected files appear with a lock symbol on the icon, or can be made invisible. And you get your choice of the Data Encryption Standard (DES), or our other fast and secure encryption algorithms, including our critically acclaimed SuperCrypt,™ which will protect a 100K document in an

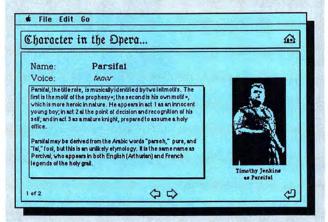


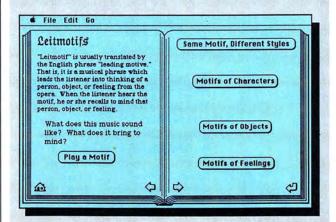


C A R D S

Behind the Scenes



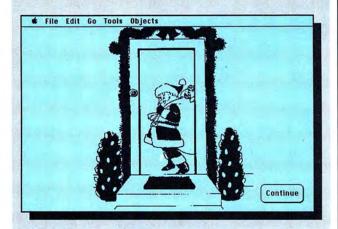




All you could ever want to know about Wagner's opera, Parsifal. This stackware provides you with the story, the background, "about the characters," terminology with sound effects and more. About Parsifal by Jay Martin Anderson, 807 West Lynn Street, #201, Austin, TX 78703.

'Tis the Season







Want to get a head start on Christmas '88? Let this stack get you in the mood with Christmas stories, carols and scenes that you may want to use on your Hyper Christmas cards. *Hyper Christmas Card* from Bright Ideas, 52 Exeter Street, Portland, ME 04102-2839.

DaynaFile. The Search For IBM PĆ File Compatibility Is Over.

Tired of hacking through the jungles of MS-DOS in search of data file compatibility for your Macintosh™? Or fighting a tangle of networks, cables, and add-on cards, just to edit a simple file?

Discover DaynaFile,™ the simple, practical solution to IBM PC file compatibility.

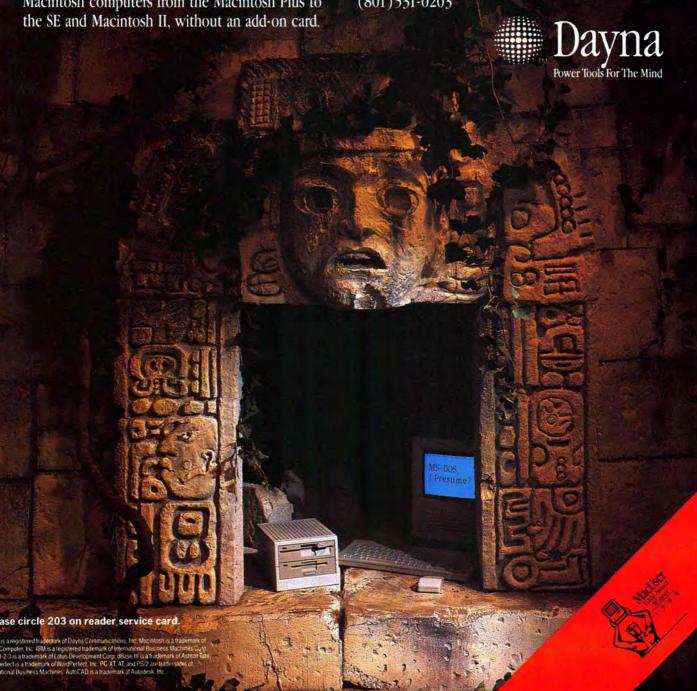
DaynaFile is an external disk drive that lets your Macintosh read from and write to a DOS-formatted data disk.

A SCSI port connects it to the entire family of Macintosh computers from the Macintosh Plus to the SE and Macintosh II, without an add-on card.

Imagine what that means. With a simple disk drive, you can now access thousands of IBM data files created by programs such as Lotus 1-2-3,™ dBase III,™ WordPerfect™ and AutoCAD™—with the ease of Macintosh. Just point and click.

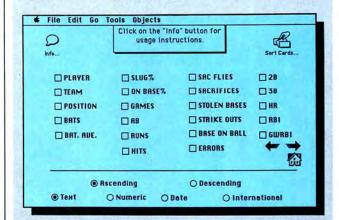
And, as a single or dual-drive unit, DaynaFile can handle all the IBM personal computer file formats you have to deal with, in both $5\frac{1}{4}$ and $3\frac{1}{2}$ disks.

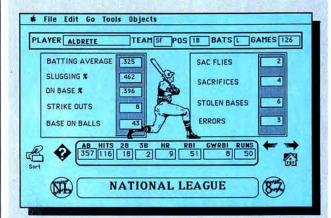
That's the compatibility you've been hunting for. So call us today. And call off the search. (801) 531-0203



CARDS

Play Ball

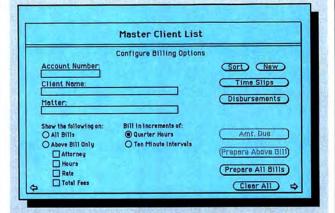


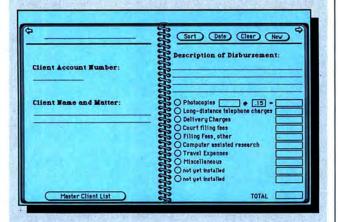


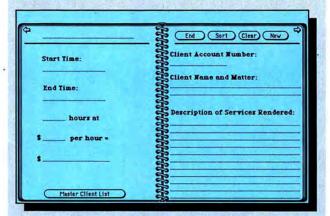


Brush up on your baseball stats and be ready to impress your friends this season. Look at the sorting card for the many ways to view the statistics of the National and American Leagues for 1986 and 1987. Baseball Stat Stacks by Roger Cornia, SportsWare, 940 Hoxell St., Gilroy, CA 95020.

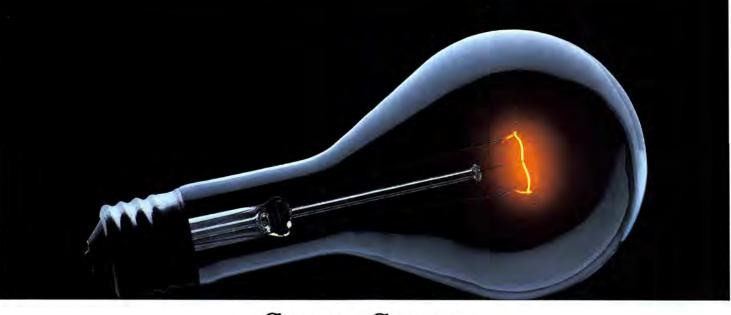
Organized Crime







This stack is to help lawyers and other legal types organize client billing information. Use it to keep a detailed listing of services rendered on your clients' behalf. Log your hours, fees, disbursements — and when you're ready, select prepare all bills. Client Disbursements by Peter B. Nagel.



COMPUSERVE. YOU DON'T HAVE TO KNOW HOW IT WORKS TO APPRECIATE ALL IT CAN DO.

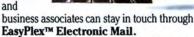
CompuServe is a computer information service. You subscribe to it. In return, you have access to an incredible amount of information. entertainment, communications and services. Here are a few of the hundreds of things you can do.

COMMUNICATE

CB Simulator features 72 channels for "talking" with other subscribers. National

Bulletin Boards let you post messages

where thousands will see them. Friends. relatives



More than 100 CompuServe Forums welcome participation in discussions on all sorts of topics. Software Forums help with online solutions to software problems. Hardware Support Forums cater to specific computers. There's even free software, and online editions of computer periodicals.

HAVE FUN

Play all sorts of sports and entertainment trivia games, brain-teasing educational games plus TV-type game shows with "live entertainment." Or, for the ultimate in excitement, get into an interactive space adventure.

SHOP

THE ELECTRONIC MALL™

takes you on a coast-to-coast shopping spree of nationally known merchants, without ever leaving home.

SAVE ON TRIPS

With CompuServe's travel services you can scan flight availabilities, find airfare bargains and even book your own flights online. Plus, there are complete listings of over 28,000 hotels worldwide.

BE INFORMED

CompuServe puts all of the latest news at your fingertips, including the AP news wire, the Washington Post, the St. Louis Post-Dispatch, specialized business and trade publications and more. Our executive news service will electronically find, "clip" and file news for you to read whenever you'd like.

INVEST WISELY

Get complete statistics on over 10,000 NYSE, AMEX and OTC securities. Historic trading statistics on over 90,000 stocks, bonds, funds, issues and options. Five years of daily commodity quotes. Updates on hundreds of companies worldwide. Standard & Poor's. Value Line. Over a dozen investment tools.

So much for so little.

Subscription Kit.

All you pay is a low, one-time cost for a Subscription Kit (suggested retail price \$39.95). The low cost, standard rate for online time is just 10¢ a minute, 24 hours a day. In most major metropolitan areas you can go online with a local phone call. Plus, you'll receive a \$25.00 U.S. Introductory Usage Credit with the purchase of your CompuServe

So easy the whole family can go online.

CompuServe is "menu-driven," so beginners can simply read the menus (lists of

CompuServe

options) that appear on their screens, then type in their selections. If you ever get lost or confused, type H for help. Remember, you can always ask questions online through our feedback service or phone our Customer Service

Department. Before you can access CompuServe, you need a computer, a modem (to connect your computer to your phone) and, in some cases, some simple communications software. Now you're ready to order. For your low, one-time subscription fee, you'll receive:

- a complete, easy-to-understand, 200-page spiral-bound Users Guide
- your exclusive preliminary password
- · a subscription to CompuServe's monthly magazine, Online Today
- · a \$25.00 usage credit!

To buy a CompuServe Subscription Kit. see your nearest computer dealer. To receive our informative brochure or to order direct, write or call 800-848-8199 (in Ohio or Canada, 614-457-0802).

CompuServe. You don't have to know how it works to appreciate all it can do-for you.

Please circle 46 on reader service card.

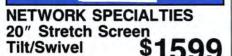
Information Services, P.O. Box 20212 5000 Arlington Centre Blvd., Columbus, Ohio 43220

An H&R Block Company
EasyPlex and THE ELECTRONIC MALL are trademarks of

When you want to talk MacIntosh

Mega Graphics Megascreen 2001 Video Sys... 1699.00 Megascreen SE Video Sys... 1599.00 Megascreen Plus Video Sys... 1599.00 Megascreen Il Video Sys... 1699.00 Network Specialties High Top Full Page Display ... Call Proapp Eye Save Monitor ... 319.00 Radius Full Page Display Plus ... 1499.00 Full Page Display SE ... 1599.00 Two Page Display ... 2199.00

MONITORS



Sigma Designs

MODEMS

Everex EMAC MD 2400							249.00
Hayes			à				
Hayes Mac 1200							.439.00

DRIVES WITH TAPE BACKUP

Everex	Т					ī				ï	ī				
EMAC 40/60.													. (Call	
EMAC 91/60 .														Call	
Mirror Techno	ole	og	gi	e	s										
Magnet 40/40											15	96	99	.00	
Magnet 85X										. 2	28	38	99	.00	

FLOPPY DRIVES

Ehman Engine	e€	1	1	n	g						
800K External											199.00

HARD DRIVES

CMS																			
Pro-20 SE/	١.					÷	٠		į.					4		45	99	.0	0
Pro-40 SE/																			
MacStack 2	20															59	99	.0	0
MacStack 4																89			
MacStack 6	60											i				99	99	.0	0
MacStack 8																			
MacStack '	140)													2	19	99	.0	0
Ehman En	gir	16	96	er	İ	n	g												
20MB Hard	ĪD	r	iv	e						·						99	99	.0	0
40MB Hard																			
Everex																			
EMAC 40D		i														98	99	.0	0
EMAC 91D					,	,						,			1	49	99	.0	0
Lodown																			
Lodown 21																84	19	.0	0
Lodown 31															1	08	99	.0	0
Lodown 42											+				1	19	99	.0	0
Mountain																			
20MB with																			
40MB with	S	C	S	١						+					1	49	99	.0	0
PCPC																			
MacBottom	H	IC)2	21	1											8	59	.0	0
MacBottom	ı H	IC	2	21	11	V			,	+						98	99	.0	0
MacBottom	1	IC)(32	2											9	99	.0	0
MacBottom																			
MacBottom)4		-											3			
MacBottom	H	IC)	15	51	V									1	49	99	.0	0



EVEREX EMAC 20D

\$599

DIGITIZERS/SCANNERS

AST	
Turbo Scan	. 1299.00
Koala	
MacVision 300 DPI	199.00

TAPE BACKUP

AST										
AST 2000									. 1499.00	0
AST 4000									.3999.00	0
CMS										
Tapestack 60	0 .				+		į		799.00	0



EVEREX EMAC 60T

\$1099

Mountain 20MB Dual Removable 2199.00 20MB Removable Bernoulli . . . 1499.00 40MB 20/Removable Bernoulli . . 2699.00

MEMORY

Dove Computer MacSnap 524 159.00 MacSnap 524E 139.00 MacSnap 524S 189.00 MacSnap 548 369.00 MacSnap 548E 349.00 MacSnap 548H 639.00 MacSnap Flus 2 269.00 MacSnap Plus 2H 479.00 MacSnap 2S 479.00 MacSnap 4S 999.00 MacMemory E Machines Adaptor Kit 119.00 Multisimms 2MB Call Multisimms 4MB Call Turbo Drive 40 SCSI 1699.00 Turbo Max 999.00 Turbo SE 419.00 Maxplus Mega 2MB 349.00 Maxram/Maxprint 35.99 68881 Math Co-processor 369.00	
MacSnap 524E 139.00 MacSnap 524S 189.00 MacSnap 54B 369.00 MacSnap 54BE 349.00 MacSnap 54BH 639.00 MacSnap Flus 2 269.00 MacSnap Plus 2H 479.00 MacSnap 2S 479.00 MacSnap 4S 999.00 MacMemory E Machines Adaptor Kit 119.00 Multisimms 2MB Call Turbo Drive 40 SCSI 1699.00 Turbo Max 999.00 Turbo SE 419.00 Maxplus Mega 2MB 349.00 Maxram/Maxprint 35.99	Dove Computer
MacSnap 524E 139.00 MacSnap 524S 189.00 MacSnap 54B 369.00 MacSnap 54BE 349.00 MacSnap 54BH 639.00 MacSnap Flus 2 269.00 MacSnap Plus 2H 479.00 MacSnap 2S 479.00 MacSnap 4S 999.00 MacMemory E Machines Adaptor Kit 119.00 Multisimms 2MB Call Turbo Drive 40 SCSI 1699.00 Turbo Max 999.00 Turbo SE 419.00 Maxplus Mega 2MB 349.00 Maxram/Maxprint 35.99	MacSnap 524
MacSnap 548 369.00 MacSnap 548E 349.00 MacSnap 548S 439.00 MacSnap 548H 639.00 MacSnap Plus 2 269.00 MacSnap Plus 2H 479.00 MacSnap 2S 479.00 MacSnap 4S 999.00 MacMemory E Machines Adaptor Kit 119.00 Multisimms 2MB Call Multisimms 4MB Call Turbo Drive 40 SCSI 1699.00 Turbo Max 999.00 Turbo SE 419.00 Maxplus Mega 2MB 349.00 Maxram/Maxprint 35.99	MacSnap 524E139.00
MacSnap 548E 349.00 MacSnap 548S 439.00 MacSnap 548H 639.00 MacSnap Plus 2 269.00 MacSnap Plus 2H 479.00 MacSnap 2S 479.00 MacSnap 4S 999.00 MacMemory E Machines Adaptor Kit 119.00 Multisimms 2MB Call Multisimms 4MB Call Turbo Drive 40 SCSI 1699.00 Turbo Max 999.00 Turbo SE 419.00 Maxplus Mega 2MB 349.00 Maxram/Maxprint 35.99	MacSnap 524S 189.00
MacSnap 548E 349.00 MacSnap 548S 439.00 MacSnap 548H 639.00 MacSnap Plus 2 269.00 MacSnap Plus 2H 479.00 MacSnap 2S 479.00 MacSnap 4S 999.00 MacMemory E Machines Adaptor Kit 119.00 Multisimms 2MB Call Multisimms 4MB Call Turbo Drive 40 SCSI 1699.00 Turbo Max 999.00 Turbo SE 419.00 Maxplus Mega 2MB 349.00 Maxram/Maxprint 35.99	MacSnap 548
MacSnap 548H 639.00 MacSnap Plus 2 269.00 MacSnap Plus 2H 479.00 MacSnap 2S 479.00 MacSnap 4S 999.00 MacMemory E Machines Adaptor Kit 119.00 Multisimms 2MB Call Multisimms 4MB Call Turbo Drive 40 SCSI 1699.00 Turbo Max 999.00 Turbo SE 419.00 Maxplus Mega 2MB 349.00 Maxram/Maxprint 35.99	MacSnap 548E
MacSnap Plus 2 269.00 MacSnap Plus 2H 479.00 MacSnap 2S 479.00 MacSnap 4S 999.00 MacMemory E Machines Adaptor Kit 119.00 Multisimms 2MB Call Multisimms 4MB Call Turbo Drive 40 SCSI 1699.00 Turbo Max 999.00 Turbo SE 419.00 Maxplus Mega 2MB 349.00 Maxram/Maxprint 35.99	MacSnap 548S439.00
MacSnap Plus 2H 479.00 MacSnap 2S 479.00 MacSnap 4S 999.00 MacMemory E Machines Adaptor Kit 119.00 Multisimms 2MB Call Multisimms 4MB Call Turbo Drive 40 SCSI 1699.00 Turbo Max 999.00 Turbo SE 419.00 Maxplus Mega 2MB 349.00 Maxram/Maxprint 35.99	MacSnap 548H639.00
MacSnap 2S 479.00 MacSnap 4S 999.00 MacMemory E Machines Adaptor Kit 119.00 Multisimms 2MB Call Multisimms 4MB Call Turbo Drive 40 SCSI 1699.00 Turbo Max 999.00 Turbo SE 419.00 Maxplus Mega 2MB 349.00 Maxram/Maxprint 35.99	MacSnap Plus 2
MacSnap 4S 999.00 MacMemory E Machines Adaptor Kit 119.00 Multisimms 2MB Call Multisimms 4MB Call Turbo Drive 40 SCSI 1699.00 Turbo Max 999.00 Turbo SE 419.00 Maxplus Mega 2MB 349.00 Maxram/Maxprint 35.99	MacSnap Plus 2H 479.00
MacMemoryE Machines Adaptor Kit119.00Multisimms 2MBCallMultisimms 4MBCallTurbo Drive 40 SCSI1699.00Turbo Max999.00Turbo SE419.00Maxplus Mega 2MB349.00Maxram/Maxprint35.99	
E Machines Adaptor Kit 119.00 Multisimms 2MB Call Multisimms 4MB Call Turbo Drive 40 SCSI 1699.00 Turbo Max 999.00 Turbo SE 419.00 Maxplus Mega 2MB 349.00 Maxram/Maxprint 35.99	
Multisimms 2MB Call Multisimms 4MB Call Turbo Drive 40 SCSI 1699.00 Turbo Max 999.00 Turbo SE 419.00 Maxplus Mega 2MB 349.00 Maxram/Maxprint 35.99	
Multisimms 4MB Call Turbo Drive 40 SCSI 1699.00 Turbo Max 999.00 Turbo SE 419.00 Maxplus Mega 2MB 349.00 Maxram/Maxprint 35.99	
Turbo Drive 40 SCSI 1699.00 Turbo Max 999.00 Turbo SE 419.00 Maxplus Mega 2MB 349.00 Maxram/Maxprint 35.99	
Turbo Max 999.00 Turbo SE 419.00 Maxplus Mega 2MB 349.00 Maxram/Maxprint 35.99	
Turbo SE 419.00 Maxplus Mega 2MB 349.00 Maxram/Maxprint 35.99	
Maxplus Mega 2MB	
Maxram/Maxprint35.99	
68881 Math Co-processor369.00	
	68881 Math Co-processor 369.00

To Mac users, we are the new kid on the block.
To more than 400,000 satisfied PC customers, we're an old friend.



Call now for fast, friendly service on the widest selection of Mac hardware and peripherals.

..you want to talk to us.

SOFTWARE

SOFTWARE
Aegis Development
Doug Clapps Word Tools 45.99
Affinity
Tempo
Ann Arbor Softworks
Full Write
Full Paint
Ashton Tate
dBase Mac
Berkley Systems Design
Stepping Out
Stateview 512 Plus 199.00
Broderbund
Print Shop
Cricket
Cricket Graph119.00
Cricket Draw
Data Tailor
Trapeze
Data Viz
MacLink Plus with cable 129.00
Deneba
Coach
Coach Professional
Coach Thesaurus
Comment 1.1
Fifth Generation
Fast Back79.99
Firebird Liscensees
Loor Author
Laser Author



NESHOBA Filemaker Plus

\$179

Infoshpere		
Intermail 7 Users	S	 259.00

Innovative Data Design MacDraft	155.00
Letra Set	
Ready—Set—Go	289.00
Lundeen & Associates	
Works & Spell	39.99
Microsoft	
Works	79.00
Word 3.1	239.00
Write	
File	
Excel	
Power Point	
Migent	
In-House Accountant	99.00
Survivor	
MacMoney	54.00



TARGET SCOOP

\$289

Silicone Beach		
Silicon Press	ě,	 .49.99
Software Discoveries		
Merge Write		 .33.99
Software Power Company		
Power Up		 .39.99
Software Supply		
Suitcase	,	 .45.99
SuperMac Software		
Super Laser Spool		 .99.99
Disk Fit		 .49.99
Sentinel		 .99.99
Symetry		
Acta V 2.0		 .59.99
T/Maker		
Miles Mari		00 00

Allsop Disk File 10 Holds 10 31/2" Disks .3.99 Disk File 30 Holds 30 31/2" Disks . 9.99 Cleaning Kit for 31/2" Disks 15.99 3 Outlet, Duplex/Filter 48.99 6 Outlet, 6' Cord/Filter 48.99 6 Outlet, 6' Cord/Duplex 29.99 6 Outlet, Duplex/Wall 49.99 Power Conditioner......169.00 Kalmar Designs Teakwood Disk Cabinet for 31/2" . 13.99 Kensington Turbo Mouse . Turbo Mouse ADB77.99 Disk Drive Cleaning Kit......... 19.99 Microcomputer Accessories, Inc. MacIntosh Valet109.00 PTI/Datashield S-85 Surge Protector59.99 S-100 Surge Protector 69.99 Power Center 5 Switched outlets . 89.99 Power Center Modem Protection . 119.00 Turbo Backup 300VA399.00 Turbo Backup 450 VA429.00

ACCESSORIES

DISKS



Maxell 31/2"	SS/DE) .					 12.99
Sony							
Sony 31/2"	DS/DD						 17.99
Sony 31/2"							



In the U.S.A. and in Canada

Call toll-free: 1-800-233-8950

Outside the U.S.A. call 717-327-9575, Fax 717-327-1217

Educational, Governmental and Corporate Organizations call toll-free 1-800-221-4283 CMO. 477 East Third Street, Dept. N2, Williamsport, PA 17701

ALL MAJOR CREDIT CARDS ACCEPTED

POLICY: Add 3% (minimum \$7.00) shipping and handling. Larger shipments may require additional charges. Personal and company checks require 3 weeks to clear. For faster delivery, use your credit card or send cashier's check or bank money order. Credit cards are not charged until we ship. Pennsylvania residents add 6% sales tax. All prices are U.S.A. prices and are subject to change, and all items are subject to availability. Defective software will be replaced with the same item only. Hardware will be replaced or repaired at our discretion within the terms and limits of the manufacturer's warranty. We cannot guarantee compatibility. All sales are final and returned shipments are subject to a restocking fee.



MAC SE NOW AVAILABLE MAC II AVAILABLE SOON.

Your Macintosh is a very special computer, therefore, it deserves the best dust covers available. Computer Cover Company designs these covers specifically for each Macintosh component. Our workmanship and quality has been acknowledged by thousands of our discerning customers.

Have you ever tried vinyl, naugahyde or cloth dust covers? If you have, then you can appreciate why our covers are constructed of 400 denier Rip Stop Nylon. Our covers are water and static resistant, they will not tear, crack or create lint problems.

MACINTOSH COVER SETS	BASE PRICE*
#100 Macintosh, keyboard, and mouse	\$21.95*
#110 Macintosh, keyboard, printer, and #120 Macintosh, keyboard, printer, exter	
and mouse	\$31.95*

STAND UPS:

PAK UPS:

Convenient diskette carriers with velcro closure holds diskettes safe and secure. 3.5" Small PAK UP holds 1 or 2 diskettes .direct order \$4.95 2/\$7.95 3.5" BIg PAK UP holds up to 8 diskettes ..direct order \$7.95 2/\$12.95 Colors — bone, tan, blue, platinum, brown, red, black, smoke, green.

IMAGEWRITER RIBBONS:	Box of Six	5 or Less
Black	.\$21.95/\$3.66 ea.	\$4.50 ea
Solid Colors	.\$26.95/\$4.50 ea.	\$6.00 ea
Multicolored I/W II	.\$52.50/\$8.75 ea.	\$10.00 ea
SLIP UPS:		

Our own special mouse pad measures 8" x 9½". Available in 3 colors: blue, red and gray, Regulary \$6.95

* * FREE — Slip Up Mouse Pad weach Cover Set Purchased. * *

ORDER FORM — Complete and Mail To:

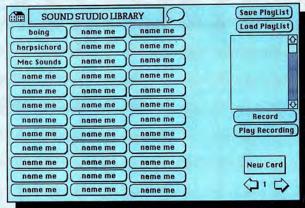
Computer Cover Co., P.O. Box 3080, Laguna Hills, CA 92654 Orders Only CA (800) 237-5376 — Outside CA (800) 235-5330 Inquiries (714) 380-0085

facintosh set number	number 1				Base Price		
Monitor: (eyboard:	☐ 128/512/Plus [NAC] ☐ 128/512 [NAC]	□ Mac	☐ Mac atop HD20 (add \$1.00) ☐ Mac PLUS [NAC] ☐ Mac SE	20 (add \$1.00)	[NAC]	No A	No Additional Charge
rinter:	☐ Imagewriter [NAC]	1	☐ Imagewriter II (add \$1.00)	(add \$1.00)			
☐ Laserwriter (add \$5.00) ☐	15" Imag	ewriter (add S	dd \$2.00) IV	W II w/sheet feed (d (add \$5.00)		
	□ Relax fechnology Mac Mate 20 (add \$1.) □ Super Mac 20/40 Mb (add \$1.)	Mate 20	add \$1.) 🗆 Su	per Mac 20/40	Mb (add \$1.)		
* * FREE SIL	* * * FREE SIIP Up with each Cover Set Purchased * * *	er Set P	urchased *	ationim * *		9	[NAC]
							٠
					Subtotal	00	
lame				ř	CA residents add 6% sales tax	S	
ddress				(foreign orders	U.P.S. Ground (foreign orders/FPO/APO extra)	s	3.00
	2	Zip			Total	S	
aytime Phone (1					
ayment enclosed	d □ Bill my Visa □	□ es	M/C				
11 1000					Eva .		,

Please circle 202 on reader service card.

C A R D S

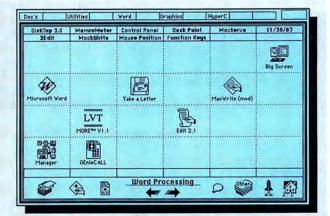
Stack That Tune

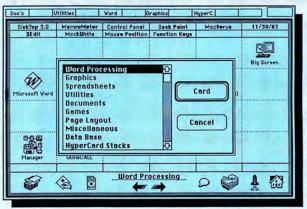




Put all your digitized sound resources in one place. If you feel creative, you can click on record and then click on your choice of sound buttons. Click on PLAY RECORDING to hear your creation. Sound Studio Stack by Steven Drazga, 450 Byberry Road #1, Philadelphia, PA 19116.

Finders Keepers

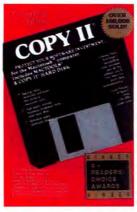




This is a combination of several HyperFinder type stacks, but the bonus is the scrolling dialog box by J. Paul. A click on the stack icon allows you to view all available finder cards. Work Station is freeware from D. J. Iwatate, GEnie: K.IWATATE.

THE QUIET 800K DRIVE WE CAN'T KEEP QUIET.





39.95

Award-winning utilities no one should keep quiet.

Here's the utilities package no Macintosh owner should be without. Winner of the 1987 MacWorld World Class Award—as well as Mac User Editor's Choice and A+ Magazine's Reader's Choice awards—Copy II makes it easy to perform any disk-related task. With it, you can format and verify disks; verify files; change the status of protect, invisible and locked files; copy disks; even view and edit any block on a disk.

Copy II also allows you to undelete accidentally deleted files from either hard disks or diskettes. Back up popular copy-protected programs and run many of them from your hard disk. And—if you own an SE—dramatically speed up that slow upper internal drive.

"It may be the copying function that gets you interested in Copy II Mac..., but MacIools® itself [the utilities] is worth the cost of the software." —CompuServe

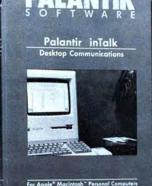
MIL-11

the dealer nearest you, to order direct: Call (503) 244-5782, M-F, 8 a.m.-5 p.m., t Coast time. Be sure to ask for our Call (503) 244-5782, M-F, 8 a.m.-5 p.m.,

se circle 105 on reader service card.

catalog.





Palantir's inTalk® Version 3.0

inTalk continues to set the standard for state-of-the-art communications with micro, mini, and mainframe computers. The newest release of inTalk includes a variety of new, high-powered features for desktop communications:

- Support for Super Fast, Error Correcting Modems
- Complete Support for PBX Data Networks
- Yterm Binary Transfers for IBM Mainframes
- Clipboard Transfers for Remote, Interactive Work
- Support for All Macintosh Keyboards and Character Sets
- New CCL Script Commands for Automated Communication Sessions
- VIDTEX Emulation for CompuServe's Graphics
- Programmable Function Keys That Can Launch a CCL Script

For PC compatibles there's Windows inTalk with the same features and ease of operation. Both are perfect for corporate use, because there's no retraining when office personnel are shifted between computers.

Whether communicating with another Macintosh, a PC, or the corporate mainframe, no one does it better than Palantir!

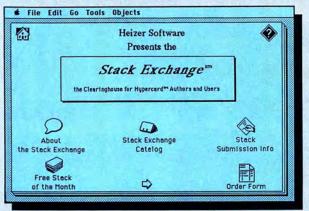
For More Information Contact Your Dealer

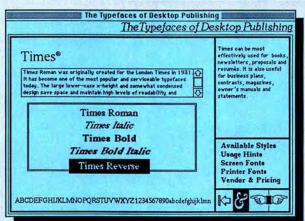


Please circle 14 on reader service card.

C A R D S

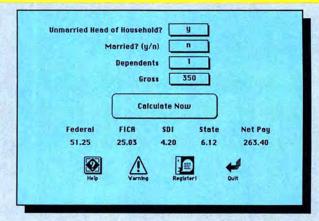
Stack Market

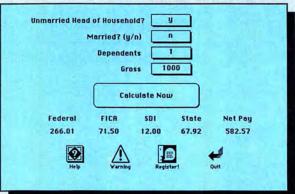




Whether you're a HyperCard user or programmer, the Stack Exchange, the clearinghouse for HyperCard authors and users, is for you. It joins Heizer Software's Excellent Exchange and WorksX-change products lines. By Heizer Software, 1941 Oak Park Blvd., Suite 30, Pleasant Hill, CA 94523.

A Taxing Situation





Let this shareware version of California Weekly Payroll Stack figure your portion of the tax bite. Is there money (life) after taxes? By R. J. Downs, 16447 Chippewa, Apple Valley, CA 92307.

SOFTWARE

\$127.00

\$159.00

.\$24.00

\$189.00

\$159.95 \$119.95

\$299.00

\$69.95

\$159.95

\$119.00

..\$39.00

....\$54.95

\$299.00

\$279.00

\$149.00

\$129.00

\$59.95 ...\$69.95

\$167.00

\$105.00 \$229.00

...\$129.00

.....\$89.00

\$349.00

\$32.95

\$44.95

SUSINESS & PI	CODUC
Aegis Development	t
Aegis Development Doug Clapp Word Tools	\$44.95
Affinity	
Affinifile	\$CALL
Tempo	\$54.00
Aldus	
Pagemaker	\$CALL
Ann Arbor	
Full Paint	\$59.95
Fullwrite Professional	\$179.00
Ashton-Tate.	
Base Mac	\$289.00
Batteries Included	
Disk Tools Plus	
Thunder 1.1	\$29.00
Berkeley Systems	
Stepping Out	\$54.95
Blyth Software Omnis 3+ w/Express	
Omnis 3+ w/Express	\$359.00

ORLAND I

Cricket Software Cricket Draw (1.1) Cricket Graph

Dataviz Mac Link+ w/cable\$129.00

Dubl-click Calculator construction set \$39.95 Wet Paint vols 1 & 2\$39.95

Norld Class Fonts Bundle \$39.95 Fifth Generation

Foundation Publishing
Comic Strip Factory\$54.95

Macropac 101 Macros for Excel\$42.95

Mindworks Software

Fureka

Reflex Plus . Sidekick 2.0

Turbo Pascal Central Point

Device Driver

Data Tailor

Doach

Letraset mage Studio...... Ready Set Go 4.0 ...

Living Videotext

Microsoft

Macromind Video Works II

lasic

xcel

ortran

Vord

Vrite .

Aultiplan
Powerpoint .

Monogram Jollars & Sense ...

Odesta Double Helix II ...

con-Itl

'ost Art

Vashoba Systems ilemaker Plus

Oldavai Software

Presents Statworks

Deneba

PCS	
Versaterm Pro	
Versaterm	\$69.00
Satori	
Bulk Mailer (3.0)	\$84.95
Bulk Mailer +	\$199.00
Legal Billing	\$329.00
Project Billing	\$419.00
Silicon Beach So	oftware
Silicon Press	
Super Paint	\$79.00
Word Builder	
Software Supply	7
	\$37.95
Power Station	

.\$115.00
\$29.95
\$289.00
.\$229.00 .\$139.00
\$31.95
\$99.00 oration \$269.00

GAMES & EDU Avalon Hill	CAIN
MacPro Football	\$27.95
Broderbund	ann service
Ancient Art of War	\$24.95
The Toy Shop	\$27.95
Print Shop	\$37.95
Ultima III	\$39.95
Ultima III Cluebook	
Bullseve	
Ferrari Grand Prix	\$34.95
Fokker Triplane	\$34.95
Davidson & Assoc	iates
Math Blaster	\$27.95
Speed Reader II	\$37.95

ELECTRONIC ARTS

Chessmaster 2000 OGRE

Patton vs Rommel

Pinball Constr.

Cub Battle Cinculates	004.00
Sub Battle Simulator	\$24.00
Microsoft Flight Simulator	600.01
	\$32.9:
Mindscape	
Balance of Power Crossword Magic	
	£07.00
King of Chicago	\$27.90
Uninvited	\$40.00
	\$29.90
P.C.A.I.	004.00
Mac Golf MacRaguetball	
Silicon Beach	\$34.93
Airborne	610.00
Dark Castle	
Enchanted Scepter	
World Builder	
Simon & Schuster	
Typing Tutor IV	
Spectrum Holobyt	
GATO	\$27.00
Orbiter	
Falcon	

\$33.95

\$19.95

\$26.95

MO	n	E	34	re
MIO	υ	L	W.	ı
T3		-		

Everex	
2400 Baud,	
100% Hayes Compatible \$299.00	0
Migent	
300/1200 Baud,	
100% Hayes Compatible	

100% F Pocket	ayes C	ompatibl	e \$159.9
Mous	e Sys	tems	100

A+ Mouse	\$79.00
Softstyle MacEnhancer	
MacEnhancer	\$149.00

DRIVES

Ehman Engineering 800K External Drive\$189.00



	Thunderware	
\$149.00	Thunderscan (4.0)\$189.00)

Blohard	
MACFAN	\$79.9
Ergotron	
Mouse Cleaner	\$14.9
MacTilt	\$69.0
MacTilt SE	\$69.0
I/O Design	
MAC+ Bag	\$59.9
Macintosh SE Bag	\$69.9
Imagewriter Bag	\$49.9
Imagewriter II Bag	\$44.9
Kensington	
A-B Box	\$59.0
Control Center	\$59.0

Drive Cleaning Kit	\$19.95
Filter	\$29.00
Mouse cleaning kit & pkt.	\$16.00
Mouse Pocket	\$7.95
Mouseway	\$9.95
Surge Supressor	\$32.00
System Saver	\$62.00
Tilt/Swivel	.\$19.95
Turbo Mouse	\$77.00
MAC CABLES	
Chall for Dring & Configure	ations

MAC CABLES \$Call for Price & Confi	gurations
MAC RIBBONS	** 05

EDUCATIONAL & CORPORATE ACCOUNTS:

We offer a full line of services catering to your needs To reach our Educational & Sales Department
Call 1-800-533-1131
Inside PA Call 814-234-2236

1		KS x of 10	
	1-4	5-9	10+
SONY			
SS/DD	12.45	11.95	11.45
DD/DD	16.95	16.45	15.95
MAXELI			
SS/DD	11.95	11.45	10.95
DD/DD	17.95	17.45	16.95
VERBAT	MIT		
SS/DD	14.45	13.95	13.45
DD/DD	18.95	18.45	17.95

OPEN: 8:00AM - 9:00PM Mon - Fri, 10:00AM - 6:00PM Sat, 12:00PM - 8:00PM Sun East Coast Time

DON'T SETTLE FOR LESS.



Software orders over \$50 & Accessories/Peripherals under 8 pounds will be shipped FEDERAL EXPRESS

(Yes even at these prices). You only pay TCP's standard shipping charge of \$4.00 per order. Orders arriving before 1:00 PM our time will be shipped out same day. If part of your order is backordered the remainder will be shipped UPS Ground for FREE.



Microsoft

EXCEL	\$219.00
WORD V3.01	\$229.00
WORKS	\$169.00
WRITE	\$129.00

	Presents\$299.00
0.	Draw (1.1)\$159.95
cricket	Graph\$119.95 Statworks\$69.95
rofiners	Statworks\$69.95
6	Device Driver .\$299.00

S SUPERM	AC
Sentinel	\$84.95
Super Spool	\$84.95





Other Brands of HD's in Stock product you want is not advertise please call - it might be in stock

To order by mall: We accept money order, certified check, personal check. Allow 2 weeks for personal & company checks to clear.

Shipping: \$4.00 for software and accessories/ \$10.00 for printers and color monitors/ \$8.00 for disk drives and other monitors/ 4dd \$3.00 per box shipped COD. Call for other shipping charges. Additional shipping required on APO, FPO, AK, HI.

Terms: ALL PRICES REFLECT CASH DISCOUNT, ADD 1.9% FOR MASTERCARD OR VISA. YOUR CREDIT CARD IS NOT CHARGED

UNTIL YOUR ORDER IS SHIPPED.

ALL \$ALES ARE FINAL. Defective items replaced or repaired at our discretion. Pennsylvania residents add 6% sales tax. Prices and terms subject to change without notice.

68-9 -8 0 - 4 FREE

PA Orders 814-234-2236 Telex: 9620-37782 (Tussey UD) FAX: 814-237-4450

TUSSEY COMPUTER PRODUCTS P.O. BOX 1006 STATE COLLEGE. PA 16804

Microtech Superstars Deliver What You Demand -Higher Capacity Disk Drives and Customer Satisfaction

"In a time when Third World competition is outdoing us in quality and value, it's a pleasure to see a top flight U.S. effort."

D. R. Patterson, Microtech Customer

Our customers are saying it, our experience in the market proves it — Microtech has *the* line of Macintosh compatible products that are truly superstars. And, we've answered your demand for more power and greater speeds with our *new* line of top performance higher capacity drives.

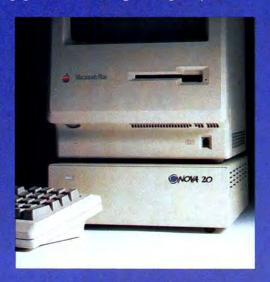
Series External Hard Drives for Mac Plus, Mac SE & Mac II.

"Your NOVA is a user friendly masterpiece. I was set up and running within 15 minutes of opening the carton. Performance is excellent, speed is much greater than anticipated, and the HD backup feature is a delightful bonus.

Feature for feature and for the price, it's the best hard drive I've seen and since I'm a penny pinching small businessman, I looked at a bunch before settling on Microtech."

D. R. Patterson

NOVA 20 \$639 NOVA 30 \$779 NOVA 50 \$1099 NOVA 80 \$CALL NOVA 120 ... \$CALL Introducing New NOVA T60, 60MB Tape Backup.





MICRO MAC Series Internal Drives for Mac SE & Mac II.

You can't beat Micro MAC's quiet, high speed, state of the art technology. Featuring the unique "Micro Lock" head locking feature, a step beyond auto-park. Installation is quick and easy with only 2 screws.

MICRO	MAC	30		k		d			į.		i.	٠					\$659
MICRO	MAC	45	N.	Ĭ,									i	÷			\$839



One Megabyte SIM Modules In DIPS and Surface Mount Technology

800-325-1895 In Conn.: 203-488-8993 Dealers call: 800-626-4276

Ask about our "SRP", Strategic Reseller Program, for low, low dealer costs.



29 Business Park Drive/Branford, CT USA 06405

Ask about our 4-year extended warranty

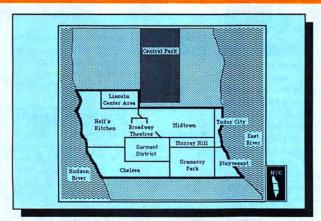
MICROTECH EXTRAS

ONE YEAR WARRANTY on all drives
TECHNICAL SUPPORT call TOLL FREE
FREE SHIPPING UPS ground in Continental U.S.
at no inflated cost

Prices and availability are subject to change without notice.

Micro MAC, Micro Lock, Nova and Micro Snap are trademarks of Microtech International, Inc. Macintosh is a trademark of Apple Computer, Inc. C A S R D

Bite the **Apple**



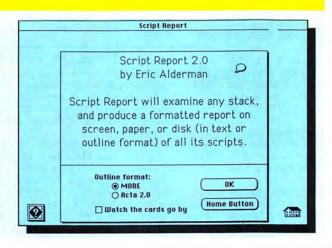


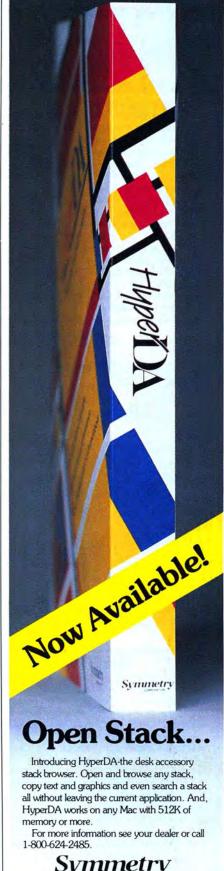
Choose your sights to see, places to stay and shop, where to eat and how to get there. The Big Apple Stack is loaded with information on Manhattan. By Kabisa Computer Creations. 914 President St., Brooklyn, NY 11215.



One Stack **Through** Another

... in a flash. Use Script Report to breeze through objects and scripts Hypercard stacks. Create text files or hard copy. Available from Heizer Software, 1941 Oak Park Blvd., Ste.30, Pleasant Hill, CA 94523.





Symmetry CORPORATION

761 E. University Dr. • Mesa, AZ 85203 • (602) 844-2199

Please circle 210 on reader service card.

MINIFINDERS

Have you often wished for a personal assistant to help in picking software? These MiniFinders may not breathe and move, but they do tell you what products are hot and, better, what these products do. Each of these items has been carefully reviewed and selected by the MacUser editorial staff. Each has been rated in increments of half mice, from 1 to 5. Ratings are relative within categories, and they can change as categories expand and new products advance the state of the art. You won't see many low ratings or bombs, since we're telling you about the cream of the crop, but we will warn you about the really bad products so that you don't spend your money on them. Blue names indicate this month's additions. The letters at the end of the entries indicate whether a product is copy protected (CP) or not (NCP). If a product has been reviewed or Quick Clicked in MacUser, the date of the review is shown. Next time you have to find products you can count on, count on MacUser!

MINIFINDER INDEX

BUSINESS ACCOUNTING	234
COMMUNICATIONS	239
DATA BASES	
DESK MANAGERS	
EDUCATION	
ENTERTAINMENT	
GRAPHICS & DESIGN	
HARDWARE & ACCESSORIES	
INTEGRATED SOFTWARE	
LANGUAGES	
MUSIC	
NUMBER CRUNCHING	
ORGANIZATIONAL TOOLS	
PERSONAL FINANCE	
SYSTEM SOFTWARE	
UTILITIES	
WORD PROCESSORS	
TOTAL TREE COLOR TOTAL T	

INTEGRATED SOFTWARE

Crunch is an icon-driven relational spreadsheet that features versatile charting and data base capabilities. Strong financial logic, date and mathematical functions. Spreadsheets can be linked. The manual is clear and concisely written. Macros are not supported. \$195. VisiCorp, 2700 Augustine Dr., Santa Clara, CA 95054. CP (Jan 86)

Jazz provides well-integrated modules for word processing, graphs, worksheets, data bases and communications. HotView is best feature. Requires 512K+ and external drive. Version 1A requires 400K drive. \$395. Lotus, 55 Cambridge Parkway, Cambridge, MA 02142. CP (Prem)



Trapeze (version 2.0) is a powerful presentation worksheet that com\$\$\$\$\frac{1}{2}\$\$ bines mathematical functions and graphic representation. The interface, which consists of an icon bar, can be awkward to use.

Mac II and color supported. Data Tailor, 3113 S. University Dr., Fort Worth, TX 76109. NCP (Dec 87)

BUSINESS ACCOUNTING

Accountant, Inc. V2.0 integrates accounts payable, accounts receivable, general ledger and inventory modules. Prints checks, purchase orders, invoices, customized reports. Bare bones accounting system limited in size and scope, but ease of use and integration make it suitable for small businesses. Requires 512K+. \$299. SoftSync, 162 Madison Ave., New York, NY 10016. NCP (Oct 87)

Back to Basics Accounting is a powerful double-entry accounting software package for the small business user with GL, AR and AP modules. Exhaustive manual with numerous examples. Report capabilities are excellent. \$199. Peachtree, 4355 Shackleford Rd., Norcross, GA 30093. NCP (May 87)

BPI General Accounting is an easy to use system. Six journals, AR, AP,
Payroll and GL on one disk. Offset amounts automatically post
to ledgers. Up to 8000 accounts. Detailed records, wide range
of reports. Switcher and HFS compatible. \$249. Requires
512K+. BPI Systems, 3001 Bee Cave Rd., Austin, TX 78746.
NCP (Aug 86)

CheckMark is a Ledger with five preset journals: Cash Disbursements,
Receipts, General, Sales and Purchases. Menus and data entry
are very straightforward. Flexible summary reports are built in;
customer and vendor info is very minimal. \$295. CheckMark
Software, PO Box 860, Fort Collins, CO 80522. CP (Dec 85)

Insight is a high-powered accounting program for the small to medium

1114 size business. At present, three modules are available: Accounts Receivable, Payables and General Ledger; others are in the works. Requires 512K and hard disk. \$595. Layered, 529

Main St., Boston, MA 02129. NCP (Dec 86)

Rags to Riches integrated accounting modules (General Ledger and \$\$\$\$\frac{1}{2}\$\$ Accounts Receivable) uses Mac interface to the hilt. Information entered in one window automatically transfers. Version 3.0 now provides detailed, flexible report options. Very easy to use, but it can be confusing with several windows on screen. Requires \$12K+ and printer. \$199.95 per module. Chang Labs, 5300 Stevens Creek Blvd., San Jose, CA 95129. NCP (Dec 85)

Rags to Riches Professional Billing tracks and bills professional services. Batches activities for individual timekeepers. Use as standalone, or integrate with *R to R* modules. Requires 512K+, printer. \$399.95. Chang Labs, 5300 Stevens Creek Blvd., San Jose, CA 95129. NCP (Feb 87)

Strictly Business General Ledger features clear, well-outlined set up procedures and operations. Very flexible, up to 99 profit centers with up to 100 departments each; and customized reports. Program print spools. Requires 512K+, printer and external drive. \$395. Future Design, 13681 Williamette Dr., Westminster, CA 92683. NCP (Dec 85)

PERSONAL FINANCE

Dollars & Sense is a bookkeeping program. Easy to use, with a good manual and excellent on-screen help. Will handle up to 120 separate accounts or money categories. Uses standard double-entry accounting techniques. Will work on 128K. \$149.95. Monogram, 8295 S. La Cienega Blvd., Inglewood, CA 90301. CP (Mar 87)

MacInTax is an excellent tool for preparing tax forms. Intuitive, easy to
\$\$\\$\$\\$\$ use. Accepts data from leading personal finance programs. Good built-in help. Liberal upgrade policy for current owners. California forms set also available. \$99 federal; \$45 California. SoftView,
4820 Adohr Lane, Suite F, Camarillo, CA 93010. NCP (Mar 87)

MacMoney is a complete and easy-to-use personal financial system.

\$\$\$\frac{1}{2}\$\frac{1}{2}\$\$\frac{1}{2}\$\$ Intuitive data entry. Integrates with MacInTax. Requires 512K+. \$74.95. Survivor Software, 11222 La Cienega Blvd., Inglewood, CA 90304. NCP (May 87)



Market Pro is a comprehensive portfolio management program for the generation of fundamental data as well as technical charts and graphs. Requires 512K+, external drive and Hayes-compatible modem. \$395. Pro Plus Software, 2830 E. Brown Rd., Mesa, AZ 85203. NCP (Nov 86)

DATA BASES

Business Filevision is a masterpiece of Macintosh programming, the only true graphic data base on any micro. Much more powerful than the original, accepts *MacPaint* graphics. \$395. Telos Software, 3420 Ocean Park Blvd., Santa Monica, CA 90405. NCP (Feb 86)

C.A.T. is a dedicated relational data base for managing contacts, activities and time. Difficult to learn, but easy to use. Its rigid structure takes some getting used to, but links between types of data make it easy to keep track of important people and events. \$299.95. Chang Laboratories, 5300 Stevens Creek Blvd., San Jose, CA 95129. NCP (Nov 87)

dBase Mac is a relational DBMS that includes a structured programming language to develop standalone applications. Palette icons as alternatives to menu commands will help novice users. Requires 1M+. \$495. Ashton-Tate, 20101 Hamilton Ave., Torrance, CA 90502-1319. NCP (Feb 88)

Double Helix is an environment to generate custom applications built around a data base-type framework. Contains enhancements to *Helix* 2.0. Includes custom menus, sub form windows, password protection and a universal dump and load parser. Ability to store pictures as data fields. \$495. Odesta, 4084 Commercial Blvd., Northbrook, IL 60062. NCP (Oct 86)

FileMaker Plus retains features of FileMaker and reads FileMaker data,

\$\$\$\$\$ also displays up to 8 files, uses "lookup" to retrieve data from other files. Enhanced calculation with many additional functions. Scripts automate a sequence of actions. Requires 512K+.\$295. Nashoba Systems, 175 Sudbury Rd., Concord, MA 01742. NCP (Nov 86)

4th Dimension is a powerful relational data base that creates stand-\$\$\$\frac{1}{2}\$ alone applications. Features a Pascal-like programming language environment. Somewhat slow. \$695. Acius, 20300 Stevens Creek Blvd., Cupertino, CA 95014. NCP (Nov 87)

MacDewey! (version 2.5) is a cataloging program featuring the Dewey

Decimal Classification system. Uses predefined fill-in-the-blank
fields to create catalog cards. Suffers from bugs in search routines and the inability to distinguish first names. Not for professionals; home libraries might benefit. \$79.95. Mousetrap Software, 336 Coleman Dr., Monroeville, PA 15146. NCP (Nov 87)

Omnis 3 is a power data base, featuring concurrent multiple file management. Can handle 24 files, 12 at a time, and is fully relational. Create custom environments including user-defined menus, commands and dialogs. \$495. Blyth, 2929 Campus Dr., San Mateo, CA 94403. NCP (Mar 86)

OverVUE is a power-packed relational data base that has extensive \$\$\$\$\frac{1}{2}\$ sorting, summarizing and report generation capacity. Has macros and a charting function. Good manual. It can exchange files with a very wide variety of other programs (including IBM software). \$295. ProVUE, 222 22nd St., Huntington Beach, CA 92648. NCP (Nov 85)

Professional Bibliographic System is a specialized data base for storing and retrieving bibliographies. Redesigned templates (20) simplify creation. Version 2.6 offers improved speed, flexible formatting. \$295. Personal Bibliographic Software, Box 4250, Ann Arbor, MI 48106. CP (Feb 87)

Record Holder is a flexible, easy-to-use form-oriented data manager.

\$\$\frac{1}{3}\$\$\$ Setup is particularly simple and the search features are powerful. \$69.95. Software Discoveries, 137 Krawski Dr., South Windsor, CT 06074 NCP (Apr 86)

Reflex For The Mac is a flexible relational data base. Excellent report \$\$\$\$\frac{1}{2}\$\$ generator gives full control over appearance, style of output. Requires \$12K+, second drive or hard disk. \$99.95. Borland International, 4585 Scotts Valley Dr., Scotts Valley, CA 95066. NCP (Dec 86)

Reflex Plus is a relational data base with "smart" entry and report tts design, but no overall programming facility. Simple to set up, yet

fast. Graphic capabilities are quite limited. Version 1.0 reviewed. \$279. Borland/Analytica, 4585 Scotts Valley Dr., Scotts Valley, CA 95066-9987. NCP (Feb 88)

Writer's Workshop maintains orderly records for writers. It can track manuscripts, income and publisher. Based on and includes Runtime Helix. \$99.95. Futuresoft System Designs, PO Box 132, New York, NY 10012. NCP (Apr 87)

NUMBER CRUNCHING

DesignScope is a construction kit for digital and analog circuits. Up to \$\$\$\$\$\$ 254 components can be utilized in a single circuit, and the equivalent of a dual trace oscilloscope plots output in real-time. Good for testing circuitry without touching a breadboard. \$249.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP (Nov 86)

MacCalc is a fast, competent, full-featured spreadsheet with impressive built-in functions, font control, on-line help, ability to expand columns and rows and read/write SYLK or WKS files. The worksheet is 125 columns by 999 rows. Cell names, printing power make MacCalc a very flexible pure spreadsheet. \$139.

Bravo Technologies, c/o DPAS, PO Box T, Gilroy, CA 95021.

NCP (Sep 86)

MacSpin is a unique and powerful graphic data analysis program. Hantits dles multivariate data in a highly visual manner. Nothing else like it for any micro. \$199.95. D² Software, PO Box 9546, Austin, TX 78766-9546. CP (Jun 86)

Mindsight is a professional level decision support and business planning package. Can work with IFPS on mainframes, and is able to transmit models in both directions. Powerful and easy to use. Requires 512K+. \$249. Execucom Systems, PO Box 9758, Austin, TX 78766. CP (Dec 86)

Multiplan, the first Mac product from someone other than Apple, is beginning to show age. Still a very capable basic spreadsheet with simple sorting, 63 columns by 255 rows, many built-in functions, other standard spreadsheet features. \$195. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. CP (Mar 86)

Parameter Manager is a data manager, incorporating integrated scheduling, statistics and graphics. It has solid spreadsheet, calendar and data base functions, and reports can be customized using other software. Parameter Manager can also import data from Excel or Lotus 1-2-3. \$495. SMS, 651 River Oaks Parkway, San Jose, CA 95134. NCP (Jul 87)

StatView 512+ is a very intuitive statistical analysis program with ttts tools needed to understand any set of data. Holds data in a spreadsheet-like form. Full-featured, fast and accurate. Extremely wide range of analyses possible. Requires 512K+ and 800K of disk space to operate. \$349.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP (Dec 86)

StatWorks is a general-purpose statistics package that is both powerful and easy to use. Handles all standard tests and procedures.
Single variable and multivariate statistics are supported. \$125.
Cricket Software, 30 Valley Stream Pkwy., Malvern, PA 19355.
NCP (May 86)

GRAPHICS & DESIGN

CalendarMaker creates monthly calendars in a variety of formats.

1111/2 Users can incorporate their art and daily notes. Note files can be imported from a variety of DA calendars and outliners. Shareware and prelicensed versions available. \$30. CE Software, 801 73rd St., Des Moines, IA 50312. NCP (Dec 86)

Canvas is a Draw and Paint program that uses QuickDraw as its \$\$\$\$% output language. Full of features, including free rotation and one and two point perspective. Also has graphics macro commands, unusual in a program this inexpensive. \$195.

Deneba, 7855 N.W. 12th St., Suite 202, Miami, FL 33126. NCP (Jan 88)

Chart can easily create area, bar, column, line, pie, scatter and combination charts. A total of 42 styles are provided. Limited to 100 data items (64 in a series) on a 128K Mac, approximately twice

that on a 512K Mac. \$125. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. CP

ColorPrint allows you to print FullPaint, MacPaint, MacDraw and Mac\$\$\$ Draft documents in color using the ImageWriter II or ImageWriter II. Paint files set up as overlays are read into ColorPrint, and the program controls proper positioning registration. \$29.95. I/O Design, PO Box 156, Exton, PA 19241. NCP (Mar 86)

Cricket Draw is an object-oriented drawing program that will produce stunning, high-quality output. Designed to print on PostScript-compatible devices, such as the LaserWriter. Making shadows and flowing fountain effects is just a point and click away. \$295. Cricket Software, 30 Valley Stream Pkwy., Malvern, PA 19355. NCP (May 87)

Cricket Graph easily generates 12 graph types. Multiple windows can be displayed. Graph prints in up to 8 colors with up to 16 patterns. Self-generating macro formatting. Switcher, HFS, Laser-Writer and plotter compatible. \$195. Cricket Software, 30 Valley Stream Pkwy., Malvern, PA 19355. NCP (Jun 86)

Crystal Paint creates an electronic kaleidoscope. It is MacPaint's Brush
\$\$\$\frac{4}{3}\$\frac{4}{2}\$ Mirrors gone wild in a small, simple, yet wonderful application.

Does not work in color on Mac II. MultiFinder friendly. Requires
512K+.\$49.95. Great Wave Software, 5353 Scotts Valley Dr.,
Scotts Valley, CA 95066. NCP (Feb 88)

DeskPaint is a full-blown paint program as a desk accessory. Allows you to spruce up a graphic while in another application. Imports and exports MacPaint and TIFF images. Great for DTP, but not enough features to rival the leaders in paint programs. Zedcor, 4500 E. Speedway, Tucson, AZ 85712-5305. NCP (Mar 88)

"Draw It again Sam..." (v. 1.03) is an object-oriented graphics program, like MacDraw, that adds such useful wrinkles as layered drawing, on-screen libraries and color. Manual is weak. Requires 512K+ and an 800K disk drive. \$150. Aba Software, PO Box 850, Frazer, PA 19355. NCP (Feb 88)

Easy3D is a three-dimensional, solid modeling masterpiece. Four variable light sources, powerful sculpting tools and an exquisite user interface make this a must-have for graphics enthusiasts. Requires 512K+. \$149. Enabling Technologies, 600 S. Dearborn, Chicago, IL 60605. NCP (May 86)

EZ Draft is a high-level CAD application. Does things usually only found on minicomputer programs. Uses "pop-up" menus to supplement a full set of pull-down menus. Comes with an additional set of printer/plotter/monitor drivers. A real powerhouse. \$1995. \$500 for IEGS module to link to other CAD programs. Bridgeport Machines, 500 Lindley St., Bridgeport, CT 06606. CP (May 87)

FastForms! Construction Kit is both a fast and efficient business

\$\$\$\$\$ forms creator (a drawing program) and a specialized application
(and DA) to fill out the data fields in your forms. \$149 (US).
Shana Enterprises, 9704 54th Ave., Suite 200, Edmonton, Alberta T6E OA9, Canada. NCP (Nov 87)

Fluent Fonts is a two-disk collection of fonts. Forty-nine different items are included. All install easily in user systems. Most are well executed and some are extraordinarily nice. This is a real bargain for font lovers. \$49.95. CasadyWare, PO Box 223779, Carmel, CA 93922. NCP

Fontastic is the best font editor now available for the Mac. Features a \$\$\$\$\frac{1}{2}\$ large editing window with a grid to make positioning easy. Select letters to edit by clicking on a matrix of the font. Allows scaling of existing fonts and previewing the various styles. \$49.95. Altsys, PO Box 865410, Plano, TX 75086. NCP (Dec 85)

Fontographer is a complex, but excellent laser font creator. The fonts

downloadable PostScript files. \$395. Altsys, PO Box 865410, Plano, TX 75086. CP

GraphicWorks 1.1 is a powerful drawing and painting program that tts creates high-resolution bit-maps. Easels contain graphics, balloons hold text and both reside on panels. Graphic primitives are now a separate tool. \$99.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. NCP (Oct 87)

Graphidex indexes *MacPaint* and *MacDraw* format graphics without removing them from their original documents. Indexed graphics are retrieved via the *Graphidex* DA. Can modify an indexed graphic without affecting the original. Best for bit-mapped (*Paint* format) images but the design is questionable and the execution imperfect. Requires 512K. \$124.95. BrainPower, 24009 Ventura Blvd., Calabasas, CA 91302. NCP (May 87)

GrldMaker is a tool for artists who use perspective. The program automatically generates a series of three-dimensional plane sets that can be pasted into *MacDraw*. Sizes and viewing vantage point are easily modified. \$49. FolkStone Design, PO Box 86982, North Vancouver BC V7L 4P6, Canada. NCP (Nov 86)

Illustrator is a professional-level graphics program. Unique and power\$\$\$\\\\$\\\\$\\\\$\\\$\\\\$\\\\$\\\$\\\$\\ 1870 Embarcadero Rd., Palo Alto, CA 94303. CP until registered. (Jul 87)

Japanese Clip Art is a two-disk set of extraordinary Japanese clip art.

\$\$\$\$\frac{1}{2}\$\$ Consists of MacPaint documents and separate fonts. Volume I,
Heaven, covers mythological subjects; Volume II, Earth, has
secular subject matters. \$79.95 each volume; \$149.95 set.
Qualitas Trading, 6907 Norfolk Rd., Berkeley, CA 94705. NCP
(Apr 87)

LaserFonts are new fonts for the LaserWriter. Users download them to their machines. Very high quality and very simple to use. Willamette looks like Avant Garde. MicroFonts provides tiny, expanded and condensed versions of the LaserWriter's own fonts. \$34.95 to \$44.95 each. Century Software, 2483 Hearst, #175, Berkeley, CA 94709. NCP

taserPaint needs a major fix and quick. Its clumsy interface makes it a slow program. There's good laser output, if you persevere through the creation of a document. The support is scads better than the documentation, which is lousy. Version 1.1.4. \$495. LaserWare, PO Box 668, San Rafael, CA 94915. CP (Jan 88)

The Mac Art Dept. is a collection of over 150 graphic images ranging from foods to hands holding signs to borders. Best suited for letterheads, memos, other business use. \$39.95. Simon & Schuster, Computer Software Div., 1 Gulf + Western Plaza, New York, NY 10023. NCP (Mar 86)

MacCalligraphy is the best simulation of brush painting in any graphics \$\$\$\\$ program. User-designed Seals and Touches enable you to design your own signature tool and the style of brush you use. Comes with a clip art disk. \$175. Qualitas Trading, 6907 Norfolk Rd., Berkeley, CA 94705. NCP (Feb 88)

MacDraft is an object-oriented graphics program. It sports advanced features such as variable scaling, single degree rotation, complex arcs and a FatBits-like magnification mode. Best used to complement MacDraw, not replace it. \$239. Innovative Data Design, 2280 Bates Ave., Concord, CA 94520. NCP (Feb 86)

MacDraw is an object-oriented structured graphics program. Can be \$\$\$\$\frac{1}{2}\$ used to design forms, create presentation materials and do technical illustrations. Drawing sizes up to 8 feet by 10 feet are possible. Text can be easily generated and integrated in the graphics. \$195. Claris, 440 Clyde Ave., Mountain View, CA 94043. NCP (Nov 85)

MacModel is an economical 3D package with shading. Somewhat sketchy Mac interface, shading speed slow (but acceptable),

ne Garusey, Judy Skidham, Ron Paley, Pamela G lip Sadler, John Badford, Charles Thompson Jr ean Huber, John Whalen, Eric Weinstein, mes Daniels, Art Terry, Laura Kirk, Alain Magallo erry Anderson, Jeffery Lampos, Thomas glander, Priscilla Lotfy, Patricia Borden, ff Rutzkey, Ken Kmak, Saba Hocek, Al N nan, Robert Lefeburk, Pa Vayne Nicholls, Ruth Inc riesh, Chris Griffith, S.B. Sheppard, Ton Grimaud, William Stevens, Co. erly Peters, Alexander Amoruso, Ruber Kent, Keith Tolond, Michael S. N Meyer, Craig Sinclair, Doug Mann, Brend Shackelford, Geoffrey S. Perlma Ning Huang, Jan Gallagher, Robert Miller, (Sherman, Rich Willis, Sandra Theden, S.J.I ald Morin, Darlene Lindholm, Paul, ack, Vince Currier, Wayne Smith, bvre, Celeb Coleman, Carolyn Keegan, C. J bert L. Goetze, John P. Doherty II, Richard ton, Steve Schrammel, Edwin G. e Hamill, Richard Harding, Amy Norman, Mid in R. Bronnier, Ginger Kaiser, Anne s, Jean-Francois Cloutier, Nadear sen, Bud Aaron, R. J. Spencer, Beth Serivano, T es, Joe Hobbs, Wayne Brubaker, S rutz, Charles Cullier, Gerald L. Feldman, Michae Pleier, Lynne Avery, Len Anderson Lomoro, Bill Dengs, Robert Millanovich, Henry eve Forrester, Brian Trethewey, D. I David Zizza, Steve Harris, Mark Owens, Dr. Al R orff, Ron Romberger, Scott Mones, Venu Rao, J at, Ray McCarthy, Randy Treadway, bbert, Michael Kantz, David Harm Holt, Sheila Bre re Desormeaux, Vince Dowe, Peter Scaggs, Paul B. Codis_l ow, Dave Cur Crowley, L. Friedma hris Scott, Dr. H. McCubbin, Peter\ well, Ann Ro Riedl, Barrie D. Br let R. Day, Gale Williams, Ed Coy. Robert De hoefer, Ron Mark Chickering, Garth Oldham, Kathy erg, Charle: penthaler, Denise Les David, Tom Ulrich, Steve Bell osman, N lser, Rip O'Neil, Ric Steve Steinfelt, Bob Rub $\mathsf{d}\mathsf{M}\mathsf{c}$ R. Pemrick, Shawn S ch, Mark D. Sticht, Sue Ke McMar rry Hudson, Robert Le ce W. Lewis, Bryan Lanman, Steve Madden, Kelly Lent, Carl Bonaventupa, M. C. Clark, E. Aurand, Jeff R es Johnson, Paul B. Godfrey, Marilyn Marchiono, T.A. Miller, Chuck Spoon, Al Doorfee, Anthony Garlin,

More sophisticated desktop publishers are using Microtek desktop scanners with their BM-PCs and Macintoshs than any other. This was true in 1985, 1986, and is still true in 1987! Several independent surveys have verified this. Over 15,000 have chosen Microtek

nanufactured scanners.

Why do more people choose
Microtek? One reason is Microtek's
product "family." You can choose
from four different image scanners;
plus Optical Character Readers; plus
fax communication tools; plus Raster
to Vector conversion software.

International Data Corp. and Dataquest reports.

acintosh is a registered trademark of Apple Computers, Inc. 8M is a registered trademark of International Business Machines Corporation.

OVER 15,000 over the transfer of the transfer

Our family gives you room to grow with the confidence that all members will work together.

Another reason why over 15,000 desktop publishers have made us #1 is that Microtek products are more reliable, and more feature-rich than

others. You can count on receiving more capability for your money with

Microtek. We are the choice of the serious user! Contact your local Microtek Dealer or call us to see why.



16901 South Western Ave. Gardena, California 90247 213-321-2121 800-654-4160

Circle 32 for dealer information. Circle 35 for product information.



"Can a Macintosh lover survive in an office that runs on Wang?"

Introducing MacLink Plus/Wang VS from DataViz, the workstation emulator that provides a Macintosh user access to Wang applications, word processing, data processing, electronic mail and file transfer.

"It's a whole new system to learn, right?"

Wrong. It works just like a Wang, but with all the friendly Macintosh features. All Wang functions are available through pull-down menus, the familiar Macintosh mouse and the standard or extended keyboard.

"And what about file transfer & translation?"

Exchanging information is a snap. You can transfer a Wang WP document to your Macintosh and work in Microsoft Word or MacWrite. And it works the other way, too.

"Good enough. But if I want to connect with a Wang PC, or even an IBM PC..."

No problem. MacLink Plus/Wang VS connects with either one, and includes a "library" of more than 25 different data translators, such as Wang WP, WordPerfect, Microsoft Word, MacWrite, DCA, dBase, Lotus, and more. Works with the Apple File Exchange utility, too.

Ask your Macintosh dealer about MacLink Plus/Wang VS, or call us direct at (203) 866-4944.



grainy image resolution. On-line help screens are a welcome addition. Frequent updates and low price make this a reasonably good buy. \$40. A.P.P.L.E. CO-OP, 290 SW 43rd St., Renton, WA 98055. NCP (Aug 86)

MacPaint is the graphics program that started a whole new genre. Still
the best freehand graphics tool. Version 1.5 supports 512K+
Macs and the LaserWriter. Multiple tools, patterns and features
too numerous to describe. A work of art for artists. \$125. Claris,
440 Clyde Ave., Mountain View, CA 94043. NCP

MacTEX (v. 2.0) is the TeX environment of choice for hardcore TeX users on the Macintosh. Very intimidating for others. Painfully slow and visually unattractive. Requires 1M+. \$750. FTL Systems, 234 Eglington Ave. East, Toronto, Ontario M4P 1K5, Canada. NCP

Mac3D 2.0 is a feature-laden 3D program with a MacDraw-like interface. PostScript-resolution shading with six variable light sources, user-definable tools, and many more features make this a powerhouse. \$249. Challenger Software, 18350 Kedzie Ave., Homewood, IL 60430. NCP (Jan 87)

MapMaker produces maps and analyses of related geographical data.

\$\$\\$\\$\\$ Additional data disks available. Documentation could be better.

Requires 512K+; 2nd drive recommended. \$295. Select Micro
Systems, 40 Triangle Ctr., Yorktown Heights, NY 10598. NCP
(Jan 87)

MGMS: Professional CAD for Macintosh offers more than 200 functions. Very complete, capable program. Groups, Dimension, Libraries, etc. are standard. Sometimes confusing — designed for experienced, professional CAD user, not the novice. Full plotter support. 512K+ or Mac XL. \$799. Micro CAD/CAM, 3230 Overland Ave., Los Angeles, CA 90034. NCP (Nov 87)

MiniCad V3.0 is a pro level CAD package. Vast array of features, many accessible only through command/shift/option key combinations. Works in 2D or 3D with easy transition from one to the other. MacDraw-like interface makes it easy to learn and use. Requires 512K+. Diehl Graphsoft, 8370 Court Ave., Suite 202, Ellicott City, MD 21043. CP (Oct 87)

PageMaker uses a graphics studio metaphor to make this layout pro\$\$\$\frac{1}{2}\$ gram a natural for pasteup artists. Version 2.0 adds automatic kerning and hyphenation. Still the standard. Excellent documentation. Could use a global search and replace for design elements. \$495. Aldus, 411 First Ave. South, Seattle, WA 98104. NCP (Oct 87)

Phoenix 3D is an economical 3D drawing package, with features that belong in a more expensive program. Multiple light sources, fine object placement and orientation control, and a good selection of shapes. \$49.95. Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247. NCP (Oct 86)

PictureBase is a powerful graphic librarian. You can store paint and PICT \$\$\$\$% formatted items and attach keywords for later search and retrieval. \$69.95. Symmetry, 761 E. University Dr., Mesa, AZ 85203. NCP (Sep 87)

Portfolio: Designs for Newsletters provides over 20 templates for 2page newsletters with pre-set columns, headlines, graphics and captions. Documentation provides excellent tutorial in page design. Requires 512K+; PageMaker. \$79.95. Aldus, 411 First Ave. S., Suite 200, Seattle, WA 98104. NCP (May 87)

The Print Shop makes it easy to create greeting cards, signs, banners and letterheads. Uses its own special graphics and can import Paint files. Hard disk users get version 1.02 or higher. \$79.95.

Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP (Sep 87)

Quark XPress is a high end desktop publishing application. Layout is done in block format; powerful lining tool ties blocks together. \$695. Quark, 2525 West Evans, Denver, CO 80219. NCP (Sep 87)

Ragtime is an "Integrated Page Processor" with text, graphics and built-in spreadsheet. Flow text automatically from one frame to another. Spreadsheet has a full set of functions. Excellent, easy-to-use program. Requires 512K+. \$395. Orange Micro, 1400 N. Lakeview, Anaheim, CA 92807. NCP (Apr 87)

Ready, Set, Go! 4 has an elegant interface and excellent manual.

\$\$\$\frac{1}{2}\$\$ Powerful text wraparounds, fast word processor with hyphenation and spelling check and custom stylesheets. Requires

512K+.\$495.Letraset,40 Eisenhower Dr.,Paramus,NJ 07652. NCP (Feb 88)

\$coop could someday be the world's best desktop publishing program, but version 1.0 isn't it. There are various ways to cause the program to bomb which need to be fixed. The manual is poorly organized and lacks tutorials. \$495. Target Software, 14206 SW 136th St., Miami, FL 33186. NCP (Feb 88)

slide Show Magician 1.3 is useful for creating full screen audio-visual presentations on the Mac. Frame branching, improved editing capabilities, external cassette recorder synchronization and digitized sound capabilities make this much more powerful than the original. \$59.95. Magnum, 21115 Devonshire St., Chatsworth, CA 91311. CP (Mar 86)

Space Edit is a 3D CAD program. Display shows top, front, side and axonometric views of an object, all at once or one at a time. Has standard CAD features plus zoom, exploded view, animated flyover. Suppression of hidden lines is very slow. Requires 512K+. \$625. Abvent,9903 Santa Monica Blvd., Beverly Hills, CA 90212. CP (Jul 87)

Storyboarder produces working animated storyboards for use in film
and video production. Imports graphics from MacPaint; allows
screen masking to simulate television, 35mm or 70mm screen
widths; allows limited animation and special effects. \$495.
American Intelliware, PO Box 6980, Torrance, CA 90504. CP
(Nov 86)

SunShine Graphics Library is a collection of 46 400K disks (to date)

with a wide variety of high-quality digitized images stored as *MacPaint* files. \$20/disk: discount scale for multiple purchases.

SunShine, Box 4351, Austin, TX 78765. NCP (Feb 87)

SuperPaint is a powerful, easy-to-use graphics program with all the ttts best features of MacPaint and MacDraw — and then some. Among the new features, LaserBits provides 300 dpi magnification and there are 40 editable brush shapes. Requires 512K+. \$149.95. Silicon Beach, 9580 Black Mountain Rd., PO Box 261430, San Diego, CA 92126. NCP (Feb 87)

ting programs. Good for people trained on mainframes in the early days. Otherwise very sticky with a high learning curve. Requires 512K+. \$495. Addison-Wesley, Jacob Way, Reading, MA 01867. NCP

VideoWorks II is an easy-to-use animation tool — the best available on \$\$\$\$\frac{1}{2}\$\$ the Mac. Has an Overview mode that acts as a slide show carousel for presentations. Works in color on the Mac II. \$195. Requires 1M+ and an 800K drive. MacroMind, 1028 W. Wolfram, Chicago, IL 60657. NCP (Mar 88)

WetPaint consists of two 3-disk volumes of very high quality clip

1111 art. Also includes the Art Roundup DA, the best art browser/
editor yet. Volume 1 or 2, \$39 each; both volumes, \$59. Available in PictureBase format for \$15 extra per volume. Dubl-Click
Software, 18201 Gresham St., Northridge, CA 91325. NCP
(Sep 87)

World-Class Fonts! comes in two volumes of three disks each. Includes \$\$\$\\\\$\$\\\$\$ all the Mac the Knife fonts and a lot more, including 2 useful utilities. This is now the best collection of ImageWriter fonts available. Each volume: \$39; both volumes: \$59. Dubl-Click Software, 18201 Gresham St., Northridge, CA 91325. NCP (Dec 86)

COMMUNICATIONS

AppleShare is the long awaited file sharer from Apple. Software-based,
AppleShare requires you to dedicate a Mac and a hard disk to
run it. Allows users on the network to protect things from other
users on the folder level. Interface to network is provided at a
revised Finder. \$799. Apple Computer, 20525 Mariani Ave.,
Cupertino, CA 95014. NCP (May 87)

ComServe allows you to share a Hayes-compatible modern over an AppleTalk network. You can call out, but you can't call in. Works with most telecommunications packages. \$195 per server. Infosphere, 4730 SW Macadam Ave., Portland, OR 97201. CP (Feb 88)

Desktop Express is a simple to use, semi-automated program for using MCI Mail and Dow Jones News/Retrieval. Performance is traded

off for ease of use. Requires 512K+, \$149. Dow Jones, PO Box 300, Princeton, NJ 08543. NCP (Jan 88)

telecommunications program with strong macro features;

HomeFind, an electronic filer as bad as HomeTerm is good; and Apple's Edit, a simple, non-HFS-compatible text-file editor.

\$49.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. NCP (Sep 86)

InBox is an easy-to-use mail system. It's called up from a desk accesso\$\$\$\$\frac{1}{2}\$\$ ry. Has a very slick interface. Dedicated Mac not required. \$350
for starter set which includes one Administrator disk and three
Connection disks. Additional Connections cost \$125 each.
Think Technologies, 135 South Rd., Bedford, MA 01730. NCP
(May 87)

MacTerminal provides basic telecommunications and terminal emulation for the Mac user. Doesn't have macros nor any sort of auto
redial/auto logon capability. Best for those needing faithful
VT100 or IBM 3278 emulation — it is superb at those. \$125.
Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014.
NCP (Prem)

Microphone is a high-powered terminal program that's easy enough for \$\$\$\$\frac{1}{2}\$ novices. Very powerful command language allows full automation of communications, if desired. \$149. Software Ventures, 2907 Claremont Ave., Berkeley, CA 94705. NCP (Jul 86)

Microsoft Mall is an electronic mail system that runs under AppleTalk.

\$\$\$\frac{1}{2}\frac{1}{2}\text{Supports file transfers across the mail system. Full on-line help facility. Also includes "While you were out" messages. Desk accessory based. Prices determined by number of users licensed. One to four users, \$299.95; 5 to 10 users, \$499.95; 11 to 20 users, \$749.95; 21 or more users, \$949.95. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. NCP (May 87)

Red Ryder is a full-featured telecommunications program that supports

\$\$\$\$\$ MacBinary, Xmodem and Kermit. Has big screen support, auto
procedure creator, and up to 30 keyboard macros. This is the
cream of the crop (in late 87). \$80. Freesoft, 150 Hickory Dr.,
Beaver Falls, PA 15010. NCP (Dec 87)

Smartcom II balances power and ease of use. Capable of unattended
\$\$\$\$\frac{1}{2}\$ operation and has a very powerful command language. Supports MacBinary, Xmodem and Hayes Verification protocols.

The large screen buffer can easily be archived. \$149. Hayes, 5923 Peachtree Industrial Blvd., Norcross, GA 30092. NCP (Jul 86)

Telescape is the power telecommunicator's terminal program.

Can be configured to emulate any terminal. The documentation does not adequately explain the many features. \$125.

Mainstay, 5311B Derry Ave., Agoura Hills, CA 91301. NCP
(Jun 86)

TOPS is a file server that is designed to network computers with different \$\$\$\\$\\$\\$\ operating systems. The current system will support Macs, MS-DOS compatibles and UNIX. Access to files and subdirectories is transparent to the user; they appear as Mac folders. Only handles ASCII or Text files. \$149 for Mac version. \$389 for PC's (comes with add-on card). TOPS, 2560 Ninth St., Berkeley, CA 94710. Serial number protected. (May 87)

VersaTerm features include DEC VT100 and VT52, Tektronix 4014
\$\$\$\$\frac{1}{2}\$ graphics terminal and Data General DG200 emulation. Supports Xmodem and MacTerminal Xmodem protocols and MacBinary. VersaTerm is easy to use and well documented. \$99.

Peripherals, Computers & Supplies, 2457 Perkiomen Ave., Mt. Penn. PA 19606. CP (Prem)

VersaTerm-Pro is a very powerful terminal program with several special \$\$\$\$\frac{4}{2}\$ features. Does one of the best VT100 emulations available and specializes in high-quality Tektronix 4014 and 4105 emulation. A pro's tool. Requires 512K+. \$295. Peripherals, Computers & Supplies, 2457 Perkiomen Ave., Mt. Penn, PA 19606. NCP (Apr 87)

WORD PROCESSORS

Document Compare allows users to compare any two MacWrite 4.5,

\$\$\$
ASCII or MDS documents. Differences in spelling, punctuation,
formatting and wording are detected. Documents can be printed out with differences highlighted. \$99. Legalware, 33 Young
St., Toronto, Ontario M5E 1S9, Canada. NCP (May 86)

Document Modeler can automate much of a professional office's corre\$\$\$\$\frac{4}{2}\$\$ spondence. Comes in two parts: Template Maker and Document Maker. Initial setup requires time and is complex.
\$299.95. Legalware, 33 Young St., Toronto, Ontario M5E 1S9,
Canada. NCP (Mar 87)

Doug Clapp's Word Tools is a useful punctuation and style editing program. It won't turn you into a Proust, but it will help you make your writing cleaner and clearer. Word counts among different formats show discrepancies, but not to worry. Requires 512K+. Aegis Development, 2125 Pico Blvd., Santa Monica, CA 90405. NCP (Sep 87)

Expressionist is a powerful DA that allows you to create complex math-\$\$\$\$\$\$ ematical equations from within an application. Equation manipulation has never been easier. \$79.95. Allan Bonadio Associates, 1579 Delores St., San Francisco, CA 94110. NCP (Jul 87)

JustText is a professional level word processor and page makeup pro
**** gram that generates PostScript output. Comes with a set of
LaserWriter utilities that allow total manipulation of art and text.

Requires LaserWriter or other PostScript compatible output device. \$195. Knowledge Engineering, GPO Box 2139, New York,
NY 10116. NCP (Dec 85)

Kadmos Greek Font is a full character set of ancient Greek that prints on any PostScript printer. Requires learning new typing skills, but excellent quality makes it worth the effort. Allotype Typographics, 1600 Packard Rd., Ann Arbor, MI 48104. NCP. (Oct 87)

Lookup is an on-call, quick single word spelling checker. Designed for the way writers really work. Uses the 93,000+ word Spellswell dictionary. \$49.95. Working Software, 321 Alvarado, Suite H, Monterey, CA 93940. (Dec 87) NCP

MacProof is a grammar, style and spelling checker that's like having \$\$\\$\\$\\$\ your own personal copy editor. Grammar rules are fixed, and you may not agree with the choices. The program only suggests corrections, it doesn't make them for you. And the checking process can be slow if your document is long. \$195 for standalone version; \$2500 for networked version. Automated Language Processing Systems, 190 West 800 North, Provo, UT 84604. NCP (Apr 87)

Macspell + (version 1.10) is a spelling checker that installs as a desk accessory. Works easily with MacWrite 4.5 and 2.2 and Word, but has some drawbacks. New version just available. Requires 512K+, two drives or hard disk. \$99. Creighton Development, 16 Hughes St., Irvine, CA 92718. NCP

MacWrite is the basic Mac word processor. While it doesn't have every bell and whistle, it is more than adequate for most users. Features include global search and replace, page numbers indicated in the scroll bar and excellent LaserWriter compatibility. \$125. Claris, 440 Clyde Ave., Mountain View, CA 94043. NCP

MergeWrite is a mail merge program for MacWrite (also works with ASCII files). Program combines names and addresses from a data file into predefined fields in a form letter. Also allows simple conditional IF-THEN-ELSE equations. \$49.95. Software Discoveries, 137 Krawski Dr., South Windsor, CT 06074. NCP (Dec 87)

MindWrite integrates outlining and word processing better than anyone. Version 1.1 fixes many problems of the earlier version.
Sophisticated search and select options. Unimpressive speed.
\$295. MindWork Software, PO Box 2223, Monterey, CA 93942.
NCP (Feb 88)

QUED/M (v. 2.01) is an excellent text editor that saves documents in a ttty form readable by most computers and printers. Doesn't support

COMPARE

Over 20,000 drives shipped and 21/2 years later Warp Nine continues to offer the finest quality for your Macintosh storage needs.

	Warranty	External SCSI Select	Quick Pull Term.	Auto Parking	Fan Cooling	Back-up Software	Dealer Discounts	Shipping Orders	Extras
WARP NINE	1 YEAR	YES	YES	YES	YES	YES	NO	48 HRS.	10 Mb Stackware
APPLE	90 DAYS	YES	EXTRA	YES	YES	YES	YES	N.A.	NONE
JASMINE	1 YEAR	YES	YES	YES	YES	YES	YES	?	9 Mb Public Dom

















TOLL FREE 1-800-654-5294 (612) 633-3255 in Minnesota

WARP NINE ENGINEERING, INC.

1751 West County Road B, Suite 107, St. Paul, Minnesota 55113

*Based on quotations December 2, 1987, and on MacWorld's December issue.

graphics or multiple fonts. Programming language allows creation of data base. \$129. Paragon Concepts, 4954 Sun Valley Rd., Del Mar, CA 92014. NCP (Mar 88)

QuickWord is a word processing accessory that adds sophisticated glossaries to MacWrite. Simple to install and use, yet powerful and efficient. \$49.95. EnterSet, 2380 Ellsworth, Berkeley, CA 94720. NCP

Scriptor is designed for producing standard format scripts. Starts with a Word document. As you change your Word document, Scriptor will reformat, renumber and reprint the script. Supports LaserWriter and daisywheel printers. \$295. Screenplay Systems, 348 E. Olive Ave., Suite F, Burbank, CA 91502. NCP (May 87)

Spelling Champion is a fast and accurate batch-type spelling checker.

\$\$\$\frac{1}{3}\$\$ Backup feature allows you to undo corrections in a paragraph.

Works only with MacWrite 4.5. \$39.95. Champion Software,
6617 Gettysburg Dr., Madison, WI 53705. NCP (Oct 86)

Spellswell is an effective and powerful standalone spelling \$\$\$\\\\$\\\$\ checker. It has many advanced features such as capitalization and homonym checking and comes with a large, well-chosen dictionary. Very good dictionary, good value. \$74.95. Working Software, 321 Alvarado, Monterey, CA 93940. NCP (May 86)

Thunder! is one of the best spelling checkers around. Features Learned \$\$\$\$\$\$ Words (a superb glossary) and statistics. A very fast DA, it works interactively and in selection mode. Requires 512K+. \$49.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. NCP (Dec 86)

WriteNow for the Macintosh has many of the features of MacWrite
\$\$\$\frac{1}{2}\$ and then some, including the ability to work in columns. Has
built-in spelling checker with 50,000-word dictionary. \$175.
T/Maker, 1973 Landings Dr., Mountain View, CA 94043. NCP
(Mar 87)

SYSTEM SOFTWARE

HyperCard is a totally unique program for the Mac. It uses an index card metaphor. It contains a programming language, *HyperTalk*. Requires 1M+. Free with new Macs, otherwise \$49.95. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Dec 87)

System Tools 5.0 is the Apple System upgrade for Mac Plus, SE and II

swners. It contains MultiFinder (a multitasking environment), a
LaserWriter spooler, and a Control Panel resource to add color
on the Mac II desktop. Takes 1M+. \$49. Apple Computer,
20525 Mariani Ave., Cupertino, CA 95014. NCP (Mar 88)

ORGANIZATIONAL TOOLS

Acta is an outline processor in desk accessory format. It has practically \$\$\$\% all the power of a standalone program, and then some. Can save files as Acta outlines, MacWrite or text files. \$59.95. Symmetry, 761 E. University Dr., Mesa, AZ 85203. NCP (Jul 86)

Business Class is a HyperCard stack that contains world travel information and itinerary planning. Uses maps to locate countries of interest, but it lacks United States domestic travel information. Requires 1M+ and HyperCard. \$49.95. Activision, 2350 Bayshore Pkwy., Mountain View, CA 94043. NCP (Mar 88)

Calliope is a new type of outlining program. Chunks of information are manipulated as small "light bulbs" containing text. Related elements can be graphically connected, and their text information viewed in hierarchical order. Text files can be created for MacWrite editing. \$99. Innovision, PO Box 1317, Los Altos, CA 94023. NCP (Sep 86)

Comment (previously known as Memorandum) is the electronic equivalent of Post-it Notes. Notes can be attached to many different
types of documents. Doesn't work well with SuperPaint or Microsoft Works. An alarm clock feature alerts users of Timed
Notes. \$99.95. Deneba Systems, 14206 SW 136th St., Miami,
FL 33186. NCP (Nov 87)

DecisionMap organizes data to facilitate decision making. Unique weighting abilities make this a powerful tool. The decision analysis process is long and sometimes complex, but never difficult. \$145. SoftStyle, 7192 Kalanianole Hwy., Honolulu, HI 96825. CP

Design is a powerful organizational tool. It goes beyond mere flowcharting. Complex, detailed program aimed at software pros. \$250.

Meta Software, 150 CambridgePark Dr., Cambridge, MA 02140.

NCP (Apr 87)

MacFortran™ and MacFortran/020™ V2.3

the world's most popular FORTRAN 77 compilers for Macintosh

COMPILER

MacFortran

—Full ANSI FORTRAN 77 compiler with debugger. Includes VAX, FORTRAN 8X, extensions, new linker interface, supports Mac toolbox, overlays, virtual arrays, compiles to assembler source and has no limit on code or data size. NCP \$295.

MacFortran/020 —For the Mac II and accelerator cards. Works with Multi-Finder and includes all of the features of MacFortran PLUS 68020 and in-line 68881 support, a larger linker, Mac II ROM support, NCP \$495.

UPGRADES TO V2.3

MacFortran

—From Microsoft Macintosh FORTRAN V2.2 or earlier MacFortrans. Includes new binder, manual, compiler and Absoft support. \$50.

MacFortran/020 —Registered end users of MS Macintosh FORTRAN or MacFortran wishing to upgrade to MacFortran/020 should contact Absoft and receive \$100 credit toward retail price.



2781 Bond Street Auburn Hills, MI 48057 Telex 235608







Telephone Orders Welcome (313) 853-0050

MacFortran and MacFortran/020 trademarks of Absoft. VAX trademark of Digital Equipment, Macintosh a trademark of Apple Computer. Microsoft trademark of Microsoft.

DOES WILLIAM F. BUCKLEY, JR. REALLY NEED A THESAURUS?



If you've ever watched his show Firing Line, you know Bill Buckley to be one of the most articulate. erudite people who ever spoke the King's English. His superior vocabulary makes you lean forward in your chair to keep up with him. If anyone could get by without a thesaurus, he could. But we have his letter praising our comprehensive, contemporary Word Finder. No big words, just a nice letter saying how much he liked it and uses it. Didn't mention the 220,000 synonyms for 15,000 words. Didn't say anything about how in just seconds Word Finder performs the whole cycle of look-up and replacement, so you continue writing

Look For
Our New
Product
Announcement!

Please circle 102 on reader service card.

without taking your eyes off the screen or your fingers off the keyboard. Nothing about how simple it is—just select the word you want an alternate for, and up pops a window of synonyms. Pick a new word and the window disappears, and your new word takes the place of the old word. But he did say: "It's a bloody miracle. Word Finder has changed my life. I never used to use a thesaurus." * To order call 800-828-6293 (in New York State call 716-377-0130).

Word Finder installs as a desk accessory. It is not copy protected.

Retail \$59.95

*Mr. Buckley volunteered this statement about Word Finder, and is not being compensated for his endorsement. NEW!
NOW ALSO
SUPPORTS
MULTIFINDER
AND
HYPERCARD!

∪ Visa	ard American Expres	ss ☐ Check ☐	(add \$1.90
Card Number	Exp. [Date/_	
Name			
Phone			
Company			
Address			
City	State	Zip	
WORD	©Copyright 1988, M Word Finder™ is a tra		olytics, Inc

(800) 828-6293 Toll Free to order

Dealers please call



FlowMaster charts your ad dollars in print, TV, billboard and other mediums. Analyzes cost/benefit of a campaign in terms that even jaded Mad. Ave. execs will find innovative. Includes barchart and tabular output. Requires 512K+. \$495. Select Micro Systems, 40 Triangle Ctr., Yorktown Heights, NY 10598. NCP (Jan 88)

Focal Point is a HyperCard stack that ties together a calendar, phone \$\$\$\\$\ \text{log}, client accounts and more in one easy-to-use organizational tool. Requires 1M+ and HyperCard. \$99.95. Activision, 2350 Bayshore Pkwy., Mountain View, CA 94043. NCP (Mar 88)

Bayshore Pkwy., Mountain View, CA 94043. NCP (Mar 88)

Guide allows you to "cross reference" from within a document yes using hypertext. You can set up words or sections of the document so that double-clicking brings up explanatory material, graphics and other useful items. The word processing and formatting functions, however, are limited. \$135. OWL International, 14218 NE 21st St., Bellevue, WA 98007. NCP (Apr 87)

Instant Expert is an excellent way to learn the mechanics of creating an expert system. The inference engine (that ultimately finds the answer) is visible. Lacks a true Mac interface. Version 1.0. \$49.95. Human Intellect Systems, 1670 S. Amphlett Blvd., Suite 326, San Mateo, CA 94402. NCP (Jan 88)

MacProject allows a user to plan and track a project from beginning to end. Uses CPM to produce schedules with start and finish dates for each task. Can report on resource interdependencies and generate all needed printed reports. \$195. Claris, 440 Clyde Ave., Mountain View, CA 94043. NCP (Mar 86)

MacSMARTS can create small standalone expert systems. Features hypertext connections to Paint, PICT, SYLK and text files. Still a little buggy. Requires 512K+. Version 1.03. \$149.95. Cognition Technology, 55 Wheeler St., Cambridge, MA 02138. NCP (Jan 88)

MacSpec is a specification writing tool, a cross between word and outline processors. Can automatically number and indent headings, and renumber everything when lines are moved. Text under headings is handled and formatted as though in a simple word processor. HFS-compatible. \$199.95. LM Software, PO Box 93, Belmont, CA 94002. NCP (Oct 86)

Micro Planner Plus is a great project management system. Outstanding analysis capability. Memory based, making it much faster than the original. Includes a font menu. Even saves reports out in MacDraw format for further work. Uses standard print drivers. HFS compatible. \$495. Micro Planning International, 235 Montgomery St., San Francisco, CA 94104. NCP (Dec 86)

MORE is an incredibly powerful outline processor with gobs of great features: instant charts, math capabilities, multiple windows, font and style control, templates and more. Prints outlines in any of several standard formats, even in color. Requires 512K+. \$295. Living Videotext, 117 Easy St., Mountain View, CA 94043. NCP (Jan 87)

PowerPoint is a comprehensive presentation creation tool. Handles 35mm slide and overhead transparency formats. Good graphics and text editing capabilities. Requires 512K+. \$395. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. NCP (Aug 87)

ThinkTank 512 is a very fast and intuitive organizational tool. Full keyboard control is possible. Can store and paste graphics into outlines. Slide show feature allows high-quality presentations to be created. Good report formatting and printing capability. \$195. Living Videotext, 117 Easy St., Mountain View, CA 94043. CP (Jan 86)

DESK MANAGERS

BatteryPak is a set of 9 handy desk accessories including scientific and \$\$\$\$\$\$ RPN calculators, a background text file printer and a 250-page note pad with search and phone dialing capabilities. \$49.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. NCP (Dec 85)

Executive Office is a jack of all trades office application. Good data base, word processing, graphics and minispreadsheet. Available on 400 or 800K disks; get the 800 if you can. \$249.99.

DataPak, 14011 Ventura Blvd., Sherman Oaks, CA 91423. CP (Mar 87)

Front Desk lets small businesses and offices easily keep track of personnel schedules, activities and payments. The program can keep track of up to 15 employees, functioning as a day-, weekand month-at-a-glance calendar. \$149.95. Layered, 529 Main St., Boston, MA 02129. NCP (Dec 85)

My Office lets you handle your files and papers in much the same way you did before you got a computer. Excellent use of graphic symbols. \$129.95. DataPak, 14011 Ventura Blvd., Sherman Oaks, CA 91423. CP (Prem)

Quickset is a set of desk management and organizational tools that can be used as desk accessories or applications. Functions include note filer, card filer, calendar, phone dialer, financial and statistical calculators and a file encryptor. \$49.95. EnterSet, 2380 Ellsworth, Berkeley, CA 94720. NCP (Dec 85)

SideKick 2.0 beefs up original SideKick DAs and adds two major new ones — MacPlan, (formerly Click-On Worksheet) and Outlook, a full-featured outliner. Also comes with seven applications to support the desk accessories. \$99.95. Borland International, 4585 Scotts Valley Dr., Scotts Valley, CA 95066. NCP (Jun 87)

Smart Alarms is the best reminder system for the Mac. Easy to use, ttty versatile and, well, smart. This self-running DA automatically reminds you of anything you enter into its Reminder file, giving you a wide range of useful advance warning options. \$49.95. Imagine Software, 19 Bolinas Rd., Fairfax, CA 94930. NCP (Oct 86)

Top Desk is a set of 7 self-installing (and self-removing) DAs. Menu Key \$\$\$\$\frac{1}{2}\$ adds Command key sequences to programs; View allows looking at and moving data between up to 8 MacWrite documents; also included are BackPrint, Touch 'n' Go, Blank, Encrypt and Launch. \$59.95. Cortland Computer, PO Box 9916, Berkeley, CA 94709. NCP (May 86)

UTILITIES

Accessory Pak 1 is a set of useful applications and utilities. Paint Cutter

alone is worth the price. That program allows users to browse
and manipulate full page MacPaint documents. \$39.95. Silicon
Beach, PO Box 261430, San Diego, CA 92126. NCP (Nov 85)

AutoSave DA is insurance against system crashes. It saves your work automatically at intervals from 1 to 99 minutes. Compatible with many applications, but not recommended for use with data bases. \$49.95. Magic Software, 1706 Galvin Rd. S., Bellevue, NE 68005. NCP (Jan 88)

Colorizer adds pigments to the desktop and black and white applications. Also colors PICT graphics. System resources include saving and printing color screens. A useful novelty that'll run its course as developers add color to apps. Requires Mac II. \$49.95. Palomar Software, PO Box 2635, Vista, CA 92083. NCP (Jan 88)

Copy II Mac does efficient sector and bit copies and in its latest version table to be can back up virtually all Mac software. Features graphic displays of copy progress. Comes with MacTools, a multi-use utility that can recover many damaged files. \$39.95. Central Point Software, 9700 SW Capitol Highway, Portland, OR 97219. NCP (Apr 86)

DiskExpress unfragments disk volumes by reorganizing data into continuous sectors and arranging files to slow down further fragmentation. Works with *MacServe*, floppy drives and most hard drives. Requires 512K+. \$39.95. ALSoft, Box 927, Spring, TX 77383. NCP (Feb 87)

MINIFINDERS I I I I I I

DiskQuick is an easy-to-use cataloging program. Criteria selection option for generating subcatalogs. Requires 512K+. \$49.95. Ideaforms, P.O. Box 1540, Fairfield, IA 52556. NCP (Apr 87)

Disk Ranger is a speedy cataloging program that doubles as an efficient labelmaker. Comes with pinfeed labels. Works with regular and hard disks. Can catalog HFS systems. \$34.95. Graham Software, 8609 Ingalls Circle, Arvada, CO 80003. NCP (Mar 86)

DiskTop 2.0 is a desk accessory *Finder* replacement of extraordinary power and ease of use. Comes with the useful *LaserStatus* DA and *Widgets* application. The extras alone are worth the price. Requires 512K+. Upgrade from version 1.0, \$7; \$10 with new manual. \$39.95. CE Software, 801 73rd St., Des Moines, IA 50312. NCP (Aug 87)

Dubl-Click Calculator Construction Set lets users design personalized tt calculators with a variety of standard and special functions. Finished calculators can be saved as installable desk accessories or as clickable applications. \$59. Dubl-Click Software, 18201 Gresham St., Northridge, CA 91325. NCP (Apr 86)

Fedit Plus is the file and disk editor for everyone, from newest Mac owner to oldest. It can do more for your disks and files than any other application. Can recover deleted MFS files. If you own a Mac, get it. HFS-compatible. \$49.95. MacMaster Systems, 108 E. Fremont Ave., #37, Sunnyvale, CA 94087. NCP (Sep 86)

Findswell is an indispensible utility that installs a new button in the Open
Dialog box of virtually every Macintosh application. Press the button, type a search string, press Find and Findswell searches for any files that match. Click Open or double-click to open the correct file. Requires 512K+. \$49.95. Working Software, 321 Alvarado, Monterey, CA 93940. NCP (Nov 87)

FlashBack is a utility to back up HFS hard disks onto floppies. A unique \$\$\$ graphic display of the HFS directory facilitates file selection. The program can handle files larger than 800K. \$59.95. Mainstay, 5311B Derry Ave., Agoura Hills, CA 91301. NCP (Nov 86)

Hard Disk Util uses patch files to allow users to mount and run specified \$\$\$\$\frac{1}{2}\$\$ programs on their hard disks. The list of patches is constantly expanding. \$89.95. FWB Software, 2040 Polk St., San Francisco, CA 94109. NCP

HFS Locator Plus is the essential HFS desk accessory. It can search for a file by name or date of creation, create folders, move files from one folder to another, set a program to launch while in an application. \$39.95. PBI Software, 1163 Triton Dr., Foster City, CA 94404. NCP (Sep 86)

Icon-it! (v. 1.0) lets you create icons to use as an alternative to menu create commands. Comes with 47 icon templates or you can create your own. *MultiFinder*-hostile. \$79.95. Olduvai Software, 7520 Red Rd., South Miami, FL 33143. NCP (Feb 88)

LabView automates the repetitive task of controlling laboratory instruments. Rich icon-based language allows flow chart type programming, but response is slow. Requires 512K+. \$1995. National Instruments, 12109 Technology Blvd., Austin, TX 78727. NCP (Aug 87)

LaserServe is a printer spooler for AppleTalk networks. After installation \$355 all operations done via a desk accessory. Works with both Mac-

Cutting Edge = Incredible Value + Terrific Customer Service



Cutting Edge 800k \$185.00

"I abuse hardware! The Cutting Edge 800k small external drive has outperformed all of the other drives I have tested. My Cutting Edge drive has copied over 7,000 whole disk copies and over 10,000 disk formats. No other external drive on the market outperforms this one." Doug Houseman, Chairman - 1988 National APPLE Users Conference

Enjoy the Best for Less —

- Manual Eject Button Safe, easy disk removal
 1 Year Guarantee Full Warranty-Fast Service
- Thousands of hours of trouble free operation

 Reads 400k

 Dependable

 LED light
 and 800k disks

 Performance



CMS MacStack

UITIO Macciach
MacStack SD 20\$599
MacStack SD 43\$869
MacStack SD 60\$989
MacStack SD 80 \$1369
MacStack SD 140 \$2189
TapeStack 60MB \$779
Internal Hard Disks Call

Mass storage for small investment.

These units fit neatly under your Mac providing a comfortable viewing height.



Innovative Technologies
Speed Mouse Pad \$9.50

(Reg. price \$18)

State of the art teflon coated surface provides fast and smooth mouse control.

• Easy to keep

• Superior to cloth

- Easy to keep clean
- pads • High Tech design



Quality performance disks

C. Itoh 3.5" DS/DD Disks

10-49 . \$1.55 ea. 50 + . \$1.45 ea.

Our Policies Add \$5.00 per order for shipping (volume orders handled at cost). No surcharge for Visa/MC/Amex. Immediate delivery.

Technical assistance and returns please call (307) 789-0582. Prices subject to change without notice.



DIAL 1-800-443-5199

We RENT Mac Software !! MacStore New Braunfels Texas 78130 800-847-0026 Ask about our frequent renter program! TM We'll match any software rental price in this issue. We have hundreds of other titles available for the Mac. If you don't see what you want - call us ! Accessory Pak 1 or Art Grabber Accounting Packages Battery Pak 8.80 Mac Golf 9.10 Mac Labele 8.80 Mac Lightning Medical or Legal Dictionary 14.80 8.80 Bulk Mailer 18.70 13.30 Mac Mat Book (all volumes 1 - 6) Mac Publisher & Mac Publisher II Business Filevision 25.47 Call 13.85 Calendar Maker or Certificate Maker 8.80 Click Art, Effects, Letters, Publications (each) Consultant Mac Spell Right or Mac Spell + 8.80 Mac 3 D Mac Tracks 28.80 31.81 8.80 Call 8.80 Mac the Knife 1, 2, or 3 (Art, Fonts, Ripper) Championship Boxing or Baseball 8.80 Cricket Graph Davinci (We have them all!) 27.90 Call May RAM May PRINT 8.80 Micro Planner Plus 72 00 18.70 **Dollars and Sense** More Double Helix 60.50 52.75 Musicworks or Videoworks 13.19 & 14.15 Omnis III Plus 57.12 Filemaker Plus 36.50 OverVue Fluent Fonts, Fontastic, Font Explorer, Laser Fonts, Superfonts, UltraFonts, Ferrari Grand Prix or Flight Simulator Picture Base or Postermaker Call 8.80 Call 8.80 8.80

Infocom games Call LaserSpool Keystroke 64.68 Kid's Time 8.80 Languages (Asm, Basic, Z Basic, C, Cobol, Experlisp, Fortran, TML Pascal, etc.) Call Microsoft Chart, File, Multiplan, Word Call Mac Attack 8.80 Mc Cad Mac Challenger or Mac Command 8.80 Mac Draft Mac Draw 33.84

Full Paint

Helix

Gato, Orbitor, or Gridwars

Pinball Construction Set Quick Disk, Quick Word, Quick Paint (each) 8.80 Call Ready Set Go Smart Alarms 8.90 Super Paint 13,40 Tempo Thunderscan Will Writer 15.36 41.60 Write Now or Word Handler Cal 37.90 Accessories Cables - we stock most Mac cables
Carrying Cases for all Macs
10 Boxed Sony Disks Call Call 10.95 800k External Drives (double sided) 184.50 Upgrades & Power Supply Board Repairs 20 Meg SCSI Hard Disk 695.00

No membership fee + 16 day rentals - Rental applies to purchase The store logo is a trademark of MacStore, Inc., the apple logo a trademark of Apple Comp. Inc.

13.56

49.50

In Texas 800-222-1537 After tone ask operator for extension 993265

or dial direct 512-629-5419

Please circle 165 on reader service card.

INTRODUCING...



If you work with both a Macintosh™ and an IBM® PC or exact compatible, MacChuck may solve all your co-processing and file transfer needs. MacChuck lets you use your existing Macintosh and PC hardware to:

- Operate DOS programs on your PC through a window on your Macintosh
- Use the Macintosh clipboard copy and paste commands with PC programs Copy text, non-text, and even "MacBinary" files between your Macintosh and your PC serial ports at extremely high speeds

MacChuck is a powerful and flexible tool for programmers, documentation groups, just about anyone working with both Macintoshes and PCs.

If you already have a cable connecting your PC to your Macintosh, just install MacChuck and go. If you don't, we have a universal 3 meter cable that can connect any Macintosh to either a PC or AT serial port.

\$79.95 MacChuck™ PC Remote Control Program Demonstration Version -\$5.00 Universal Macintosh-to-PC Cable -\$34.95

VISA or MasterCard accepted. Minnesota residents, add 6% sales tax.

For more information or to order, call or write us at:



Vano Associates, Inc.

P.O. Box 12730 • New Brighton, MN 55112 * (612) 788-9547

Does not work with PC graphics programs or with network programs. Requires DOS 3.0 or later and Apple System 3.2 or later. Macintosh is a trademark of Apple Computer, Inc. 18M is a registered trademark of International Business Machines Corp.

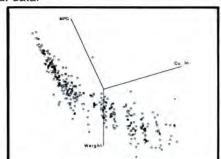
Please circle 209 on reader service card.

ROTATE ANIMATE DISCOVER

MACSPIN lets you probe your spreadsheet data in a highly interactive real-time manner. Highlight categories, identify points or groups of points, zoom in for closer inspection. Allows you to view and edit downloads from mainframes, spreadsheet or database.

See your multivariate data in a fresh and exciting way. Discover trends, patterns and visual structures. Gain a new insight... the 3D way.

Send for our DEMO disk and see if you don't agree that this is the only way to look at data.



Above is an actual MACSPIN display showing the same dataset as the spreadsheet below. Which conveys the concepts of structure and trend more clearly to you?

	MPG	Cyl	Cu. In.	Hpwr	Weight	Acc/0-60	Year
chevrolet cheve	18	8	307	130	3504	12	197
buick skylark 3	15	8	350	165	3693	12	197
plymouth satel	18	8	318	150	3436	- 11	197
ame rebel sat	16	8	304	150	3433	12	197
ford torino	17	8	302	140	3449	11	197
ford galaxie 500	15	8	429	198	4341	10	197
chevrolet impal	14	8	454	220	4354	9	197
plymouth fury	14	8	440	215	4312	9	197
pontiac catalina	14	8	455	225	4425	10	197

DEMO DISK ONLY \$10.00 MACSPIN ver 1.11 \$199.95

New Release version now fully compatible with Macintosh 512, Plus, SE and the II.

60 Day Moneyback Guarantee

Available from your local dealer or contact: D2 Software, Inc. 5609-B Adams Ave Austin, TX 78756, (512) 454-SPIN



MACSPIN is a trademark of D2Software. Inc. MACINTOSH is a trademark of Apple Computer. Inc.

Serve and TOPS. Requires 512K+ and 800K drive or hard disk. \$95 per node. Infosphere, 4730 SW Macadam Ave., Portland, OR 97201. NCP (Feb 87)

Mac Disk Catalog II is a utility that will quickly organize a moderate size disk library. Easy to use with powerful reporting and label-making features. \$49.95. New Canaan MicroCode, 136 Beech Rd., New Canaan, CT 06840. NCP (Dec 85)

MacFlow is a design tool created for programmers. Traditional flowcharting symbols are linked together, and a symbol can be connected to a separate flowchart file. Symbols can't be edited, precluding using MacFlow for other applications. \$125.

Mainstay, 5211-B Derry Ave., Agoura Hills, CA 91301. NCP (Apr 87)

MacInUse tracks time spent in applications and saves info as text files.

\$\$\$\\\$\$\$ Installs on any disk, works in background. MFS, HFS compatible.

Extremely valuable for tax purposes, client records, etc. \$79.

SoftView, 4820 Adohr Lane, Camarillo, CA 93010. NCP (Jan 87)

MacLabeler lets users instantly index and print labels for all the disks in a state burgeoning collection. Choose border type and orientation of your label; index by folder or document. Starter set of labels is included. \$49.95. Ideaform, PO Box 1540, Fairfield, IA 52556. NCP (Prem)

MacNosy is a global disassembler. A very advanced user can use this

\$\$\\\\$\\\$\\$\\$\\$\\$\\$\\$ program to look into the code of virtually any program. This advanced tool can take you places no other Mac program could dream of going IF you have the skill to guide it. The documentation is sparse. For pros only. \$90. Jasik Designs, 343 Trenton Way, Menlo Park, CA 94025. NCP

Mac + II lets you run Apple II software on the Mac. Emulation speed is only 35 to 45 percent of a real Apple II, so graphics especially suffer. Games also run slow. Runs Apple Works (Apple II integrat-

ed software). Good for ex-Apple II owners who have large software collections. \$149.95. Meacom, PO Box 272591, Houston, TX 77277. CP

MacSafe is a data file security program that allows you to place multiple files into a "safe," and then you can further protect them through two types of encryption (including DES). Flexible and very easy to use. Allows for installation on hard disk. \$149.95.

Kent Marsh Ltd, 1200 Post Oak Blvd., Houston, TX 77056. CP (Mar 87)

MacZap is a three-part disk and memory utility. It can be used to recover some damaged files and disks, compare disks, analyze disk structure and make back-up copies of most disks. \$60. Micro Analyst, 2505 Roxmoor, Austin, TX 78723. NCP (Jan 86)

Menu Fonts displays the names of fonts in the actual font instead of standard Chicago. Won't work with programs that have a non-standard Font menu or no Font menu. Comes with LockOut, a utility that gives password access to your Mac, and FastFormatter, a utility for formatting multiple blank disks. Requires 512K+.\$15. Beyond Software, 3865 N. Oracle Rd., Tucson, AZ 85705. NCP (Jul 87)

myDiskLabeler is an excellent label maker. It can read directories and use large or small icons or anything desired. Comes with 54 precut labels. \$44.95; with color printing ability (on the Image-Writer II), \$54.95; with PostScript font capability (on the Laser-

AutoSave DA

hen you use AutoSave DA you will never se information due to forgetfulness, power ss, or system errors ever again! AutoSave is transparent to you and your software.

itoSave DA automatically saves data from y Macintosh application to the current ged drive.

toSave DA will work with all current Macinsh applications. AutoSave DA also works the add one such as Suitcase™ and Tempo™.

Save interval can be set from 1-99 minutes.

AutoSave DA saves to either Hard disk or Floppy disk media.

AutoSave DA is compatible with all versions of the Macintosh.

AutoSave DA works with MultiFinder!

AutoSave DA is a valuable tool for Writers, Artists, Publishers, Programmers, and others!

end orders and inquiries to: agic Software, Inc. '06 Galvin Rd. S. ellevue, NE 68005

02) 291-0670

Only \$49.95

Ask your Dealer for a demonstration or order direct from Magic Software at 1-800-342-6243.

e is a registered trademark of Apple Computer, Inc. Macintosh is a trademark of McIntosh Laboratory, Inc. licensed to Apple Computer, Inc. and used with the ses permission of the owner. Magic Software and AutoSave DA are trademarks of Magic Software, Inc.

THE MAC

The MacZone is a trademark of the Saving Zone.

We carry over 1400 products for the Mac. If you don't see what you need, give us a call!!

Accessories

Abaton
Pro Point (mouse ball) 112.75
Beck Tech
Fanny Mac
MacStation II (in platinum or beige) 75.00
Save space by putting your printer
on top of your Mac.
Ergotron 72.00
Mactilt or Mactilt SE72.00 Mouse Cleaner 360°
Kalmar Designs Teakwood Disk Cabinets
Holds 45 Disks19.00
Holds 90 Disks
Kensington Microware
Mac Disk Drive Clean Kit 19.40
System Saver (in platinum or beige) 64.00
Kraft
Joystick (3 button)39.00
MacPacks
Colors in Wine, Blue, Grey
ImageWriter I & II Bags45.00
Mac Plus Bag (512/Plus/SE) 62.00
Mac SE Extended Keyboard Bag 72.00
Saving Zone
6 Out. Surge Noise Protecter24.50
Custom cables 11.00-35.00
ImageWriter Ribbons4.00
Mouse Mat (Red, Blue, Gray Black) 6.50
Sensible Softworks
Bags come in Gray, Navy & Wine
ImageWriter Bag45.00
MacPlus Bag59.00
Smith & Bellows
Mahogany Chest (96 disks) 27.00
Sony
Double Sided Disks 10 pack 18.00
Double Sided (Bulk) each 1.39
Single Sided Disks 10 pack 13.75
Single Sided (Bulk) each1.18
Business/Personal
Dustiless/1 Cisoliai

Borland
Reflex Plus168.00
And the state of t
Bravo MacCalc79.00
Cricket Software
Cricket Graph
Data Viz
Mac Link Plus 134.50
Electronic Arts
Thunder!
Legisoft/Nolo Press
Will Maker28.00
Living Video Text
More with Acta165.00
Lundeen & Associates
Works Plus Spell41.25
Moto
Design V2.0220.00
Micro Lytics
Word Finder35.00
Micro Planning Software
Micro Planner +299.00
Microsoft
Excel
Power PointCALL
Word 3.01239.00
Works 186.00
Monogram
Business Sense262.00
Dollars & Sense 4.0 82.00
Peripherals, Computers & Supplies
Versa Term59.00
Versa Term Pro 177.00
Personal Bibliographic
Prof. Bibliographic Sys 209.00
Softerne
Accountant Inc 179.00
Softview
Tax View Planner47.50
Software Ventures
Microphone V1.1119.00
Survivor
Mac Money V3.064.00
Symmetry
Acta V2.037.00
T-Maker
Write Now99.00
Thunder Ware
Thunder Scan V4.0 199.95
Word Perfect Corporation
Word Porfact CALL

Creative Education

Word Perfect Working Software Spellswell

Davidson & Associates	
Math Blaster	28.50
Speed Reader II	40.22
Great Wave Software	
Timemaster	24.25
Loc	30.00

Kids Time28.00
Mindscape
S.A.T./Perfect Score47.00
Simon & Schuster
Typing Tutor IV34.47
Unicorn Software
Futura or Utopia25.00
Fraction Action or Math Wzrd . 27.00
Decimal Dungeon27.00
Read A Rama35.00

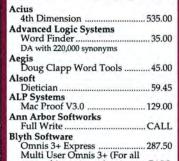
Macinto

Games		
Accolade Hardball	24.00	
	24.00	
Activision	24.00	
Shanghai	24.00	
Avalon Hill	20.75	
Mac Pro Football	29.75	
Brøderbund	07.00	
Ancient Art of War		
Lode Runner	23.00	
Maze Wars(multi user)	CALL	
Bullseye		
Ferrari Grand Prix	32.00	
Fokker Triplane	34.00	
Electronic Arts	0.0750	
ChessMaster 2000	30.00	
Ogre	20.00	
Star Fleet One	36.00	
Ерух		
Sub Battle		
Winter Games	24.00	
Green Inc.		
Crystal Quest	25.00	
Henderson Associates		
Real Poker	27.00	
Infinity		
Go	24.00	
Grand Slam Tennis II	36.00	
World Cup Soccer	29.00	
Microsoft		
Flight Simulator	32.00	
Mindscape		
Balance of Power or Deja Vu	29.75	
Shadowgate or Uninvited	29.75	
PBI Software		
Strategic Conquest +	35.00	
Practical Computer Applications	,	
Mac Golf	36.00	
Mac Courses		
Mac Racquetball		
Silicon Beach Software		
Apache Strike	28.00	
Beyond Dark Castle	28.00	
Dark Castle	. 28.00	
World Builder		
Sir Tech		
Wizardry	34.00	
Spectrum Holobyte		
Gato or Orbitereacl	26.00	

Graphics & Design

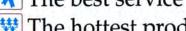
\ A
Altsys
Fontastic+48.2
F4
Fontographer237.2 Ann Arbor Softworks
Ann Arbor Softworks
Full Paint55.0
Berkeley System Design
betkeley System Design
Stepping Out55.0
Brøderbund
Print Shop39.0
Trutt 510p53.0
Toy Shop39.0
Video Works II 117.0
CasadyWare
Casauyvvaie
Fluent Fonts
Laser Fonts Vol 1 - 15 each 42.3
Century Software Laser Fonts
Century Software Laser Folias
Over 32 Laser fonts . 22.00-29.75 eac
Compucraft
Full Library89.0
Individual Disks18.0
Cricket Software
Cricket Draw 174.0
Deneba Software
Delleva Software
Canvas119.0
Diehl Graphsoft, Inc.
MiniCad398.7
Dubl Click Software
Wet Paint Vol 1 & 235.0
World Class Fonts 1 & 235.0
Foundation
roundation
Comic Strip Factory35.0
Comic People25.0
Innovative Data Design
MacDraft158.0
Letraset
ReadySetGo V4.0329.0
Mindscape
Graphic Works 1.159.0
Graphic Works 1.1
Postcraft International
Laser FX117.0
Select Micro Systems
Select Micro Systems
Map Maker221.0
Silicon Beach Software
Silicon Press42.0
Cura 2D 1777
Super 3D 177.0
Super 3D
SuperPaint79.0
Softstyle
Colombia
Colormate48.0
Printworks 43.2
Solutions
Glue39.0
Grade
Smartscrap & Clipper39.0
Super Glue54.0
Symmetry
Picture Base V1.259.0
T ICLUITE DASE V 1.2
Target Software
ScoopCAL
Williams & Macias
My Disklabeler Color34.5
My Disklabeler Color
My Disklabeler Laser36.2

When your Mac has a need, give it the very best

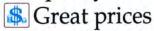


networking systems)

R The best service



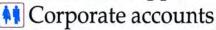
Speedy delivery

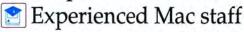




The latest information







Because We Use The Mac 14 Hours A Day To Run Our Business Call The MacZone We Speak The Language Of Macintosh

ight Years Ahead In Customer Servi

ware & Hardwa

Hardware

AST Research
TurboLaser/PSCALL
TurboScan1,399.00
C-Enterprises
AB Box 512K28.00
AB Box Mac+ & SE48.00
ABCD Box 512K48.00
ABCD Box Mac+ & SE62.00
Cauzin
Strip Reader185.00
CMS
CMS MacStacks for Plus, SE or II's
20 Meg SCSI External HD 499.00
43 Meg SCSI External HD 845.00
60 Meg SCSI External HD 975.00
80 Meg SCSI External HD 1,285.00
140 Meg SCSI External HD 2,095.00
Pro Series Internal Drives for SE's
Pro 40-SE/Rear Mount Int. HD 810.00
Pro Series Internal Drives for II's
Pro 20 Internal499.00
Pro 40 Internal 885.00
Pro 60 Internal 975.00
Pro 80 Internal1,175.00
Pro 102 Internal
Pro 140 Internal
DataDesk
Mac 101 Keyboard139.00
Dove
524E (512KE to 1Meg)159.00
524S (512KE to 1Meg w/SCSI) 217.00
548E (512KE to 2Meg)
548S (512KE to 2Meg w/SCSI) 456.00
Plus 2 (1Meg+ to 2Meg +) 289.00
Plus 2S (2Meg Simms + SE.II) 489.00
Plus 4S (4Meg Simms +,SE, II) 978.00
Toolkit to open Mac
Hayes
Interbridge 648.00
Smart Modem 1200299.00
Smart Modem 2400 447.00
Transit 1000/512K399.00
ncomm Modems 5 Year Warranty
Turbo 2400 199.00
Turbo 2400 EC274.00
Turbo 4800 EC339.00
Turbo 9600 EC599.00
T Software
JT Fax ModemCALL
Macintosh
(2) 1 meg SIMM modules CALL
Mega Graphics
Megascreen SE or II1,498.00
New Image Technology
Laser Magic43.25
Maser Magic45.25
MacScan LS-300 1,549.00
Magic Camera 185.50
Magic Video Digitizer275.00
NuData 1 Year Warranty
Data Cell 20658.00
Data Cell 40985.00
Data Cell 90
Data Cell 90 II (Mac II Int. HD) 1,740.00
Data Cell 1502,265.00
Data Cell 2904,785.00
Giga Cell 290T 5,995.00
Giga Cen 2701

SPECIALS

Berkeley System Design Stepping Out54.00
Brøderbund Videoworks II117.00
Electronic Arts Deluxe Music Construction Set 68.00
Mainstay Think 'n' Time59.75
Microsoft Word 3.01238.00
Paragon Concepts Qued54.00
Qued/M99.95
PowerPoint Presentation Software239.00
Simulated Environment Systems Quarterstaff27.00
Softview Macintax 198769.75
Solutions Inc Super Glue52.00

Nuvotech AppleTalk Connecters TurboNet
PCPC
MacBottom 21 Meg SCSI749.00
With 1200 Baud Modem 915.00
MacBottom 32 Meg 859.00
With 1200 Baud Modem 1,039.00
MacBottom 45 Meg SCSI 1,155.00
With 1200 Baud Modem 1,289.00
Radius
Accelerator Boards (SE or Plus) 798.00
68881 Co-processorCALL
Saving Zone
800K Disk Drive w/LED light 189.00
Shiva Corporation
Netbridge319.00
Netmodem V1200478.00
Netserial X232319.00
Softstyle
MacEnhancer 189.95
Solana Electronics
R-Server515.00
USRobotic Modems
1200 Baud199.00
2400 Baud359.00
9600 HST Baud750.00

Languages	Ī
orland Turbo Pascal	5

ı	Mainstay
١	VIP (Vis'l Interactive Pgrmm'g) 79.00
ı	Manx
ı	C Aztec C68K Commercial 425.00
١	C Aztec C68K Developer 250.00
	C Aztec C68K Professional 165.00
	Data Base w/ Source330.00
ı	Think Technologies
ı	Light Speed-C95,00
	Light Speed Pascal69.00
ı	TML Systems
ı	Data Base Tool Kit62.50
ı	Pascal69.00
ı	Source Code Library59.00
	Zedcor Inc
ı	Z Basic 69.00

Impulse

Affinity Tempo II Alsoft

Borland Sidekick 2.0 **CE Software**

Quick Keys ..

First Aid Software Disk First Aid

Imagine Software Smart Alarms

Fedit+ Mainstay Flashback

Mac Spool

Think 'n' Time

Micetro

Type Now

HFS Backup Software Supply

Power Station

Micro Analyst MacZap 5.0 ..

Suitcase ...

Softview Mac In Use Super Mac Software

PCPC

Compuserve Starter Kit **Electronic Arts**

Freesoft Red Ryder ...

Central Point Software Copy II Mac.....

Audio Digitizer

Professional Composer......395.00 Professional Performer224.00 Professional Performer V2.0 ... 324.75

Master Tracks Pro209.75 Midi Interface97.25

Utilities

Disk Express27.00 Font/DA Juggler31.25 Mac ExpressCALL Prolink

Calendar Maker

Disk Top

DiskTools+ (Incl. Mac Battery Pak)34.75

Smart Alarms Multi-User 90.00

Macflow85.95

Turbo Down Load27.00

Allows you to have hundreds of fonts and desk accessories available at any time.

Disk Fit V1.249.00 Laser Spool 1-5 Users 245.00 Network Disk FitCALL SentinelCALL Super Laser Spool89.75

.... 28.25

.33.00

.35.00

34.25

65.75

35.00

.....59.75

.....74.00

Mark of the Unicorn

Passport Designs

Spinnaker/Hayden Music Works

Music

Bogus Productions
Studio Session 49.75
Electronic Arts
Deluxe Music Const. Set 68.00
Great Wave Software
Concert Ware + 4.039.95
Concert Ware + Midi 4.0 86.75
Music Vol 1-5 each9.00
Kette Group
Stereo System 30098.00
Studio Session 56.25

We accept VISA, MASTERCARD & AMERICAN EXPRESS. No surcharge added.

To order by Mail, send one of the following: cashiers check, money order, credit card#, or check. Personal and company checks under \$1,000 clear immediately. Please allow 10 days for personal and company checks over \$1,000 to clear. Fortune 1000 and Governmental checks clear immediately. Call to obtain correct shipping cost.

*Please include a daytime phone number.

*No Sales Tax, except Washington State residents. WA residents add 8.1% sales tax.

If we must ship a partial order, we never charge freight on the shipments that complete the order.

120 day limited warranty on all products

*Shipping: Software only, standard is Purolator Courier Standard Air Service, \$4.00 per order.

*Overnight Air available upon request.

*All US postal sent insured, APO/FPO add 3% (\$5.00 min.), Alaska or Hawaii add 6% (\$10.00 min.),

Canada add 12% (\$15.00 min.), Foreign add 20% (\$30.00 min.).

Overseas: We ship to any destination in the Free World, using the quickest and least expensive methods possible. Second Day Air Service is available to most of Europe, Australia, and Japan.

*Hardware: Call for shipping charge.

All prices subject to change without notice. All items subject to availability.

Ad published for your convenience only.

*Software and hardware is subject to manufacturer's warranty. Defective items will be replaced immediately with like item. Due to Federal regulations, all opened software sales are final. Unopened software/hardware ordered by mistake is subject to an unber, call 206-883-1975.

All returns must have an authorization number, call 206-883-1975.

7102 180th Ave. N.E. Bldg. A107, Redmond, WA 98052

WE UNDERSTAND YOUR NEEDS!!!



NOW SHIPPING 2ND DAY

Super Spool ... Think Technologies

Laser Speed



(TOLL FREE) FOR ORDERS ONLY

Giga Cell 440T 8,796.00

.....9,985.00

Giga Cell 580T

VISA

(TOLL FREE) IN WA STATE

FOR INFO OR CUSTOMER SERVICE 1-(206) 883-1975

1-800-248-0800 1-800-243-4200 Send for our catalogue "The MacZone Magazine""......\$2.00

MINIFINDERS I I I I I I I

Writer), \$64.95. Williams and Macias, PO Box 19206, Spokane, WA 99219. NCP (Aug 87)

'Ncryptor is a simple, safe program that lets users password their files. The same program is used for encoding and decoding. This is one of the best products in its category. \$39.95. Mainstay, 5311B Derry Ave., Agoura Hills, CA 91301. NCP

Packit III is an essential utility. Primarily used to temporarily "glue" files ttt: together, it can also compress and encrypt. Feeware. \$10, \$10 for printed manual. Harry R. Chesley, 1850 Union St., San Francisco, CA 94123. NCP (Jan 87)

PowerStation is an extremely easy to use, versatile and powerful Finder ** substitute. Loaded with power user features. Comes with Pyro! \$59.95. Software Supply, 599 N. Mathilda Ave., Suite 210, Sunnyvale, CA 94086. (Dec 87) NCP

Printworks for the Mac is a comprehensive software-based dot-matrix printer control system. Optimizes printing from different applications, and is easy to use. Requires 512K+. \$75. SoftStyle, 7192 Kalanianaole Hwy., Honolulu, HI 96825, NCP (Aug 87)

Programmer's On-line Companion puts an abridged version of Inside Macintosh in your system for reference. Simply read the text or 111 transfer some or all of it directly into your normal editing window. Non-Macish interface makes the program confusing, somewhat difficult to use. \$34.95. Addison-Wesley, Route 128, Reading, MA 01867. NCP (Jul 87)

Quick & Dirty Utilities, Volume One is a disk full of handy programs. \$\$\$\$\\ Several desk accessories include a menu bar clock and a terminal emulator. \$39.95. Dreams of the Phoenix, PO Box 10273, Jacksonville, FL 32247. NCP (Nov 85)

Quickeys lets you make full use of your keyboard. Assign any command (menu choices, DAs, etc.) or series of text blocks and/or command to any key or key combination. Enormously powerful;

necessary for Apple Extended Keyboard owners. Requires 512K+. \$99.95. CE Software, 801-73rd St., Des Moines, IA 50312. NCP (Jan 88)

RamSnap is a RAMdisk and disk cache in one easy to use package. Can store multiple configurations as files. Good product but a little pricey. \$59.95. Dove Computer Corp., 1200 North 23rd St., Wilmington, NC 28405, NCP (Jun 87)

Read-It! (v. 1.0) is the best consumer value in optical character recognition software. Works with any scanner that saves images as a bit map, PICT or TIFF file. Comes with type tables that can be customized. \$295; ThunderScan version, \$149.95. Olduvai Software, 7520 Red Rd., South Miami, FL 33143. NCP (Feb 88)

SmartScrap and The Clipper are two useful desk accessory utilities for \$\$\$\$\\dagger{\pmathbf{4}}\text{ graphics work. } SmartScrap is a major enhancement to the standard Scrapbook DA. The Clipper provides you with a transparent Clipboard window, allowing you to resize or crop a graphic to the area that it will be pasted to. \$59.95. Solutions International, PO Box 989, Montpelier, VT 05602, NCP (Jul 87)

Stepping Out is a software virtual screen extender. Lets you create a \$\$\$\$ screen as large as memory allows. 9-inch screen is a "view" to larger screen. Also has reduction features. Amazing. \$95. Berkeley System Design, 1708 Shattuck Ave., Berkeley, CA 94709. NCP (Mar 88)

Suitcase is a transparent program that automatically lets you tttt use all your fonts and DAs. Foolproof and indispensible. Comes with Pyro!, the best screen saver. Requires 512K+. \$59.95. Software Supply, 599 N. Mathilda, Sunnyvale, CA 94086. NCP (Nov 87)

SuperLaserSpool is a LaserWriter spooler. Very fast because it does conversion to PostScript in the background, but doesn't print a faithful rendition of PageMaker documents as a result. \$149.95



MAC DAISY LINK PRINTER DRIVER

- · Easy installation via the chooser.
- · Supports sheet feeders 3 bins.
- · Auto proportional word spacing, and micro character adjustment.
- · Fully justifies text to within 1 pt.
- · Follows the "What you see is what you get" philosophy.
- · User customizable for stylistic changes ie. bold, underline, italics.
- · Foreign letter characters, or special symbols supported.
- · Custom fonts provided for 6 or 8 lines per inch, and user formattable for other fonts on typewriter.
- . Modem baud rates from 300 to 57600 baud.
- Supports all applications that follow the Mac user interface guidelines.

The "PRINT-LINK" continues to be the preferred tool for dot matrix printers.

For inquiries: (604) 291-9121 To Order: 800-663-6222 Dealer inquiries welcome

GDT Softworks Inc.

Suite D, 2800 Douglas Road, Burnaby B.C. V5C 5B7, Canada

Macintosh™ is a trademark licensed to Apple Computer, Inc. PRINT-LINK™ & MAC DAISY LINK™ are trademarks of GDT Softworks Inc.

Please circle 139 on reader service card.



External Hard Drives

· for 'MAC' Plus/SE ·

M20 \$502.00 20MB External Hard Drive • Beige or Platinum Complete with cables & instructions

M30 \$558.00 30MB External Hard Drive . Beige or Platinum Complete with cables & instructions

M40\$921.00

40MB External Hard Drive • Beige or Platinum Complete with cables & instructions

Internal Hard Drives

. for MAC SE Only .

300SE\$614.00 30MB Internal Hard Disk Drive . Instructions

450SE\$744.00 45MB Internal Hard Disk Drive . Instructions

"MAC" HARD DRIVE **CLEARANCE SALE**

External Floppy Drives

· for all 'MAC' Computers · M800\$172.00 800K External Floppy Disk Drive • Beige or Platinum • Cables • Instructions

External Tape Drives

· for 'MAC' Plus/SE ·

MT20\$607.00 20MB External Tape Backup SubSystem • Beige or Platinum • Includes cables, tape & instructions

Combo Hard/Tape Drive

· for 'MAC' Plus/SE ·

M20/20 \$1123

External 20MB Hard Disk/20MB Tape Backup Combination SubSystem • Beige or Platinum • Includes cables, tape and instructions

M40/40 \$1524 40MB Hard Disk and 40MB Tape Backup External SubSystem . Includes cables, tape & instructions

We Ship Anywhere Give Us A Call .



VISA

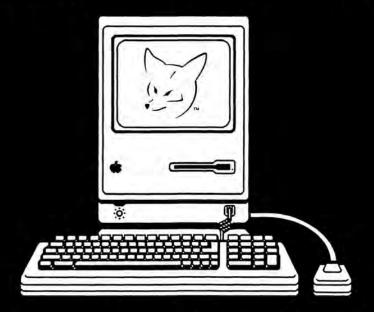
Durable Solutions, Inc.

214 North Main St. Route 12 Natick, MA

41 South Main St. Westmoreland, NH W. Hartford, CT (617) 653-7175 (603) 357-1298 (203) 232-1958

Please circle 110 on reader service card.

FOXBASE+/Mac



The Only Mac Database System That Has It All!

Incredible Speed

FoxBASE+, the unquestioned speed champion on the PC, is even faster on the Mac...faster than any other Mac database system...up to an unprecedented *fifty* times faster.

For the first time, Mac users have access to real power...power to effortlessly handle databases with hundreds of thousands of records.

True Macintosh User Interface

Multiple output windows...custom pull-down menus...user-defined icons, buttons, pop-ups, checklists, radio buttons, and other controls... dialog boxes and alerts...picture data type... *THE WORKS!*

Complete dBASE III PLUS Compatibility

Run any dBASE application on the Macintosh immediately, without changes . . . industry-standard dBASE language *plus* the famous, powerful FoxBASE+ language extensions.

dBASE users:

protect your investment in dBASE code, open new markets, and support a new generation of application-hungry end users.

Mac users:

there's a whole wide world of applications waiting for you...thousands and thousands of them!

Can One DBMS Be Right for Everyone?

Is there one database system that's ideal for end users, corporate managers, and professional software developers?

Yes! Absolutely!

FoxBASE+/Mac offers end users a *brand new*, non-procedural interface which allows you to create databases, establish relations, manipulate data, select records, generate reports or mailing labels, and even to create entire applications . . . all without programming.

Developers will appreciate FoxBASE+/Mac's friendly, interactive environment, the most powerful debugging features in the business, super-fast compiled execution speed, and total access to the elegant Mac interface coupled with absolute dBASE compatibility.

FoxBASE+/Mac Is Economical

FoxBASE+/Mac single-user costs just \$395. Multi-user versions will be available shortly.

So call (419) 874-0162 today to get the whole story. After all . . .

Nothing Runs Like THE Fox

FOXBASE G

FoxBASE+ and FoxBASE+/Mac are trademarks of Fox Software, dBASE III PLUS is a trademark of Ashton-Tate. Macintosh is a trademark of McIntosh Laboratory, Inc., licensed to Apple Computer, Inc.

Fox Software 118 W. South Boundary, Perrysburg, Ohio 43551 (419) 874-0162 Telex: 6503040827 FOX FAX: (419) 874-8678

Please circle-22 on reader service card.

single user, \$395.95 for up to five users on one network. SuperMac Software, 950 N. Rengstorff Ave., Mountain View, CA 94043. NCP (Jun 87)

Switcher is Andy Hertzfeld's contribution to Mac productivity. This pro-\$\$\$\$ gram lets users run several programs at once (up to 8 on a 1megabyte or larger machine). Switching between the programs is nearly instantaneous. Requires 512K+. \$19.95 from Apple, free from BBSs, included with some third-party applications. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP (Jun 86)

Tempo is a desk accessory that allows most Mac commands to be intelligently recorded and played back. Capabilities include pausing, conditional branching and macros that work between applications. \$99. Affinity Micro Systems, 1050 Walnut St., Boulder, CO 80302. NCP (Jul 86)

TMON is the debugger for the Mac. This isn't open to question. TMON is \$\$\$\$ simply the best. Comes with the latest version of Darin Adler's Extended User Area. \$149. ICOM Simulations, 626 Wheeling Rd., Wheeling, IL 60090. NCP

Turbo Download is a desk accessory designed specifically to increase \$\$\$\\\dagger\$ the speed of Xmodem data transfers from national data bases to your Mac. Speed increases range upward from 50% to over 300% at 2400 baud. \$39.95. Mainstay, 5311-B Derry Ave., Agoura Hills, CA 91301. NCP

II in a Mac is a graphically oriented Apple II emulator with unique features, such as text and graphics copy from Apple screen to Mac Clipboard, Suffers speed problems associated with "virtual machine" emulation. \$69. Micro-W Distributing, 1342B Route 23, Butler, NJ 07405, CP

TypeNow is a desk accessory that allows the Mac and ImageWriter to ttt function as an electronic typewriter. Type can be placed into

blanks in complex forms easily. Typing can be recorded and played back. \$39.95. Mainstay, 5311-B Derry Ave., Agoura Hills, CA 91301. NCP (Jan 86)

LANGUAGES

AAIS Prolog is a fast standard Prolog with excellent debugging and error handling. Good for serious program development. Documentation is not as good as the program. \$150. Advanced Al Systems. PO Box 39-0360, Mountain View, CA 94039-0360. NCP (Mar 87)

Aztec C is a C language that will appeal to users with a UNIX background. ttt It uses many UNIX conventions and in the more expensive versions comes with standard UNIX utilities, including the VI editor. \$75 beginners, \$199 basic system, \$299 development system, \$499 commercial system. Manx Software Systems, PO Box 55, Shrewsbury, NJ 07701. NCP (May 86)

Basic Compiler is the long awaited compiler for Microsoft BASIC. The interface is unfriendly, but it gets the job done. Compiled programs run faster, but you can still tell they are written in BASIC. \$195. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. NCP (May 87)

ExperCommon Lisp is a LISP development system. Not fully Common LISP compatible, but creates good compiled code and standalone applications. Requires 1M+, \$995. ExperTelligence, 559 San Ysidro Rd., Santa Barbara, CA 93108. NCP (Aug.

ExperLISP is a useful programming language for high-level programmers. The more you use it, the more you'll figure out about it. 111 \$495. Requires 512K+. ExperTelligence, 559 San Ysidro Rd., Santa Barbara, CA 93108. CP

Protect Your Computer with Quality, Custom Fit, Fabric, **Dust Covers**

In Tan-Navy-Royal-Grey-Red-Brown



- · Professional Appearance.
- · Unlike plastic covers, ours allow heat from equipment to flow thru fabric.
- · Machine Wash & Dry.
- · Custom Design/Perfect Fit.
- · All Fabric. Won't crack or dry out with age.

Apple Computer Items

10-12 Mac & Keyboard	23.95	10-22 Mac Turbo Touch	5.00
10-55 Mac & Keyboard Plus	23.95	10-23 Mac Numeric Turbo Touch	7.95
10-52- Mac w/Aple Hrd Dry beneath	16.95	10-28 Mac Mouse	1.50
10-73 Mac II Color Mon & 105 Keybrd	24.95	10-54 Apple Mac Hard Drive	9.95
10-78 Mac II Mono. Mon & 105 Keybrd	24.95	10-84 Radius Monitor	16.95
10-74- Mac SE & Keyboard 85	24.95	10-09Imagewriter	13.95
10-75 Mac SE & Keyboard 105	24.95	10-37 Imagewriter II	13.95
10-76 Mac SE Mouse	1.50	10-19 15" Imagewriter	16.95
10-18 Mac External Drive (400K)	5.00	10-39 Imagewriter II/cut sht Fdr	16.95
10-53 Mac External Drive (800K)	5.00	10-82Imagewritter LQ	16.95
10-13 Mac Numeric Keypad	5.00	10-20 Scribe Printer	13.95
		10-35 Laserwriter Printer	23.95
Also available More Apple	e, IBM,	Compaq, Mis Printer and	others
Name			

Address City/State/Zip Telephone

Item No. Color *MC/VISA # _ Exp. Date

(Check, M.O., C.O.D., VISA, MC*) WI Residents Add 5% Tax Add \$2.00 Shipping & Handling • Call (414) 476-1584 or Mail Form and Pymt. to: Co-Du-Co • 4802 W. Wisconsin Ave. • Milwaukee, WI 53208

Please circle 195 on reader service card.

YOU wanted a SUPER POWERFUL TEXT DATABASE MANAGER AND MACRO EDITOR for your Macintosh™. One that would do things with text a word processor CAN'T! QUED/M was the answer.

It has more than 50 common macros, allows wild characters, can jump to any line number or invisible marker and search and/or replace through unopened files. It also automatically checks for errors (like closing parens), has unlimited undoes and can assign a command key to any of 70 menu items. And, those are just a few of the features...





THIS IS THE PRODUCT YOU WANTED. THE indispensable productivity tool with features no other product has!

ONLY \$119 Send for free info today! BUY DIRECT OR FROM YOUR LOCAL DEALER.

Requires 512K



Macintosh is a trademark of Apple Computer, Inc. QUED/M is a trademark of Paragon Concepts, Inc.

4954 Sun Valley Road Del Mar, CA 92014-9923 (619) 481-1477 Outside CA (800) 922-2993

Please circle 107 on reader service card.

MINIFINDERS 4 4





ExperLogo is a version of the popular teaching language, Logo. Features three-dimensional graphics using "bunnies" rather than usual "turtles." Very speedy, smooth program. Comes with an excellent manual. \$149.95. ExperTelligence, 559 San Ysidro Rd., Santa Barbara, CA 93108. CP

ExperProlog II is a Prolog based on the new Prolog II standard. Has the ability to handle infinite trees and allows user-defined functions that operate conditionally. Documentation is not the best and Mac interface is nonstandard. \$495. ExperTelligence, 559 San Ysidro Blvd., Santa Barbara, CA 33108. NCP (Mar 87)

Lightspeed C provides an integrated environment for developing desk tttw accessories, applications and code resources in C. The editor works with the compiler for searches and file management. Can get awkward if you need something outside the environment. \$175. Think Technologies, 135 South Rd., Bedford, MA 01730. NCP (Apr 87)

Lightspeed Pascal is a fast, powerful development system for Pascal tttt programming. Fully integrated Mac-like environment. Requires 512K+. \$125. Think Technologies, 135 South Rd., Bedford, MA 01730. NCP (Feb 87)

LPA MacProlog (v. 2.0) is a much improved program that includes an incremental and optimizing compilers, a graphics environment package and C and Pascal submodules. Requires 1M+. \$495. Programming Logic Systems, 31 Crescent Dr., Milford, CT 06460. NCP (Feb 88)

MacAsm is a software development system that allows programs to be **‡**‡‡ written in assembly language. Programmers can assemble, edit and test software, and an integrated resource compiler lets independent applications run from their own icons. \$125. Mainstay, 5311-B Derry Rd., Agoura Hills, CA 91301, NCP

Mac C is a good, highly Mac-oriented implementation of this popular development language. Assembler and linker included. \$425. Consulair, 140 Campo Dr., Portola Valley, CA 94025. NCP

MacExpress is a development environment or shell. Programmers use it to save time and effort when developing standalone applica**t**tt tions for the Mac. \$195. ALSoft, PO Box 927, Spring, TX 77383. NCP (Feb 86)

MacForth Plus is an excellent implementation of the popular Forth programming language. New, reduced price, \$199. Creative Solutions, 4701 Randolph Rd., Rockville, MD 20852. NCP

Mach II is a multitasking implementation of Forth that allows local ttt variables and text files. Can create standalone applications. Several windows can be up with different operations in each, operating concurrently. Execution is fast. \$99.95. Requires 512K+. Palo Alto Shipping, PO Box 7430, Menlo Park, CA 94026. NCP (Apr 86)

Macintosh 68000 Development System is a fairly traditional assembly language package. The two-disk set provides an editor (Edit), an assembler, a linker, an executive and a resource compiler. \$195, Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. NCP

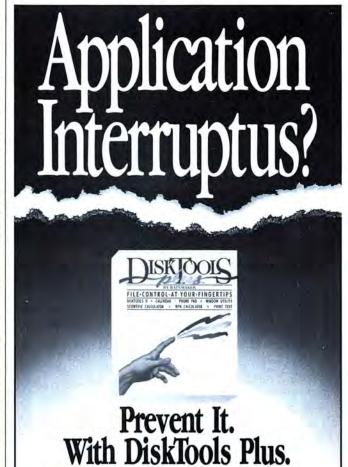
Macintosh Pascal is Apple Computer's version of this very popular programming language. Loaded as it is with innovative teaching ttt features, this interpreter is an excellent introduction to Pascal. \$125. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. CP

MacScheme is a LISP dialect with "artificial intelligence" capabilities. Has a large appetite for RAM. Interpreted language with Toolbox access limited to a small part of QuickDraw. \$125. Semantic Microsystems, 4470 S.W. Hall St., Beaverton, OR 97005. NCP

MacScheme + Toolsmith is a Mac version of Scheme, a LISP dialect. tttt Beautiful implementation, marred only by relative slowness compared to similar products. Get Toolsmith. Requires 1M+. \$395. Semantic Microsystems, 4470 S. W. Hall, Beaverton, OR 97005. NCP (Aug 87)

Megamax C is an easy to use, full version of C. Has a compiler, linker, disassembler, editor and much more. Good for beginners. Excellent documentation. \$299.95. Megamax, PO Box 851521, Richardson, TX 75085. NCP

Microsoft BASIC was the Mac's first programming language. This interpreter (it's not a compiler) now supports the Toolbox and the



 \mathbf{P} lagued by all those frustrating stops to and from the desktop? Then take the desktop with you — and pull out all the stops! Discover the iconomized ease of DiskTools Plus™. Find, copy, move, rename, delete, and get info on any file or folder. Go from one application directly to another. Locate files six different ways. All without quitting your application. Now with Multifinder[™] compatibility. DiskTools will amaze you with all the things you can do faster and better. Here's what the reviewers say:

"DiskTools II is one desk accessory I can absolutely not live without." - MacWorld

"Once you get used to their convenience, you simply won't want to work without them." — MacWeek

DiskTools Includes:

- DiskTools II
- 250-page Phone Pad
- Calendar
- Window Selector
- File Printer
- RPN.Scientific Calculators



DiskTools Plus. Nonstop Productivity Power.

How To Order: Visit your retailer or order direct by calling 800-245-4525 (in CA, call 800-562-1112). The direct price is \$49.95. Multifinder is a trademark of Apple Computer, Inc. DiskTools Plus and Batteries Included are trademarks of Electronic Arts.



It's time to put away childish things— $ARCHITEXT^{m} is coming!$

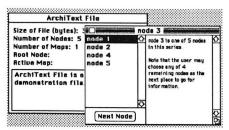
ArchiText™ is a revolutionary text retrieval, management and dissemination package intended for any professional who needs to manipulate large quantities of textual information in ways that, until now, simply have not been available on any computer.

- The Researcher who needs to analyze and index large blocks of text.
- The Educator or Corporate

 Trainer who requires a complete,
 flexible instructional authoring system.
- The Advertiser or Marketer who needs to tailor specific information and have the capability to review their audience's responses.

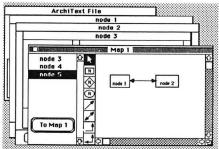
ArchiText captures text from a variety of sources. Then, following the user's specifications:

 searches for words, word combinations or Boolean combinations and places the captured text into an informational unit, or "node;"



Files consist of maps and nodes. A file information window and node are pictured.

- pastes in Paint, Draw or PICT graphics from other applications;
- links individual nodes in a variety of different ways;



Information map being created. Notice 3 available nodes on left; 2 nodes in map; and selection of linking tools.

• finds new relationships among existing nodes.

"Put Godzilla back in his swamp"



Godzilla, we all recall, was a big, ugly lizard who had an enormous appetite for just about anything he ran across, and did very little that one could consider even remotely useful. He kind of reminds us of a program we know that has some very similar characteristics. It's big, clumsy, a glutton for memory, and has to have an awfully large number of buttons pushed to do much that is useful

At BrainPower, we think that excellence in software development requires the disciplined, systematic application of a number of skills. When a lone programmer, playing at being an artist, is allowed to bring a product to fruition without management oversight, there is one thing you can count on for certain - you will have a born-again Godzilla.

BrainPower is (and we hope continues to be) a successful publisher because our product development is driven by the software requirements of our users. As a small business, our margin for error is thin, indeed. As a result, what we offer is a professional response to customer need, not the Peter Pan-like posturings of a developer, no matter how talented.

When you are ready to put Godzilla back in his swamp, write or call us. Let's discuss your needs for software productivity and determine whether our products meet them.

Sherwin A. Steffin, President, BrainPower, Inc.

ArchiText's flexibility in capturing and manipulating textual information is just the beginning of it's power and versatility. The user can individually tailor and present the information to any number of viewers and can completely control the viewer's:

- · access to the nodes;
- path taken when moving from one node to the next;
 - · ability to modify nodes;
 - time spent within each node;
- ability to copy and print information contained within any node.

Additionally, the user can record and

playback all viewer choices:

- · each node visited;
- · the order of node selection;
- · the time spent in each node:
- any keyboard entries the viewer adds within a node.

ArchiText will be available June 6 and carry a list price of \$349.95. However, special pre-release discounts are available starting March 1. Call us and ask for the free ArchiText brochure and special pre-release savings!

ArchiText requires a Mac with at least 512K of RAM and the 128K ROMS.

Also from BrainPower... DesignScope: electronic system design. \$249.95
MathView Professional: mathematical problem solver. \$249.95
StatView 512+: simply the best statistics package available. \$349.95

BRAINPOWER, INC.

24009 Ventura Blvd., Calabasas, CA 91302 (818) 884-6911 • (800) 345-0519



MINIFINDERS 2 2

whole Mac interface can be implemented in your programs. For nonprogrammers there are lots of programs available. \$99. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717. NCP

MIDIBasic is a library of simple, but highly useful routines for writing MIDI software. Good stuff. Sketchy documentation. Works with both Microsoft and ZBasic. Requires 512K+ plus BASIC. \$49.95.

Altech Systems, 831 Kings Highway, Shreveport, LA 71119.

NCP (Aug 87)

Object Logo is an object-oriented programming language with access to the Toolbox. Good product, but can't produce standalone applications. Requires 512K+. \$79.95. Coral Software, PO Box 307, Cambridge, MA 02142. NCP (Aug 87)

Personal Prolog is an inexpensive and well-documented program. Has no debugging or search and replace facilities, making it a more appropriate tool for learning than development. Documentation and use of Mac interface are excellent. \$64.95. Optimized Systems Software, 1221 B Kentwood Ave., San Jose, CA 95129. NCP (Mar 87)

Prolog/m is a solid Prolog following the Edinburgh standard. Has extensive debugging facilities, but you'll need separate *Toolbox* disk with 58 additional predicates. Drawback: no true editing or printing facilities. \$99.95. Chalcedony Software, 5580 La Jolla Blvd., La Jolla, CA 92037. NCP (Mar 87)

QUED (Quality Editor for Developers) is the ultimate source code editor. Loaded with useful and well thought out features, it will make any programmer's life much easier. It is not a word processor, however. \$65. Paragon Concepts, 4954 Sun Valley Rd., Del Mar, CA 92014. NCP (Mar 86)

TML Data Base Toolkit is an ISAM type data base that provides fast and efficient administration of large data files in applications developed with *TML* compiler. Supports multiple open index files. \$89.95. TML Systems, 4241 Bay Meadows Rd., Jacksonville, FL 32217. NCP (Dec 86)

TML Source Code Library shows how to write programs that use custom \$\$\$\$\frac{4}{3}\$ definition routines, speech, serial drivers, split bars and other topics. Provided on three 400K diskettes. Requires TML Pascal. \$79.95. TML Systems, 4241 Bay Meadows Rd., Jacksonville, FL 32217. NCP (Dec 86)

Visual Interactive Programming is a unique visual programming system for creating simple Macintosh applications. Programs are constructed in a flowchart-type manner. Easy access to most toolbox routines. Poor printing control. \$124.95. Mainstay, 5311-B Derry Ave., Agoura Hills, CA 91301. NCP (Jun 87)

ZBasic is a fast, interactive compiler capable of creating standalone applications that take advantage of Mac's unique features and abilities. Includes Edit, RMaker and MacInTalk. Requires 512K. \$89.95. Zedcor, 4500 E. Speedway Blvd., Tucson, AZ 85712. NCP (Dec 86)

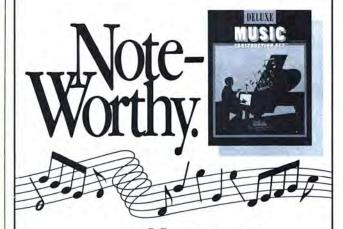
EDUCATION

Business Simulator is a training tool in a simulation game. Make decisions that manage the company through several stages over 25 years. Decisions become more difficult over time. Requires 1M+, 2 disk drives (one must be 800K). May be run from a hard disk. \$69.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. NCP (Dec 87)

ChipWits is a combination game and teaching tool. Players create

\$\$\frac{1}{2}\$\$\frac{1}{2}\$\$ programs to maneuver robots through a set of 8 mazes. The
programs are written in *ChipWit*'s built-in icon-based programming language (IBOL). \$49.95. BrainPower, 24009 Ventura
Blvd., Calabasas, CA 91302. NCP

Course Builder (version 2.0) creates standalone educational applications. An easy-to-learn dedicated programming language uses blocks and arrows. Graphics, animation and sound can be integrated. Version 2 allows mathematical calculations. Poor docu-



Now you don't need numerous programs to make music on your Macintosh. Introducing the one and only program for *all* your musical expressions. DeluxeMusic Construction Set. It's worth owning for a number of notable reasons.

Composing
It's as simple as clicking the mouse! Place notes and chords with the mouse, the onscreen keyboard or with MIDI input. Complete music notation tools let you draw slurs, ties and adjustable beams. Edit notes, measures or whole compositions with cut, copy and paste functions for fast rearranging.

Performing
Create new instruments with
the built-in voice editor and listen to your music in full
4-voice Macintosh sound. Or play music on your own
synthesizer using 16 channels of MIDI with MIDI sync.
You can even record "live" MIDI performances with
Opcode's Sequencer™ software and use DeluxeMusic to
turn your performance into printed music.

Publishing
Behold professional quality
sheet music printed on your LaserWriter® — in just
minutes! DeluxeMusic supports Adobe Systems' Sonata™
font to give you total control over page range, landscape
printing, even reductions.

Visit your retailer and discover the all-in-one program at a one-of-a-kind price.



DeluxeMusic Construction Set. Notably Superior.



ELECTRONIC ARTS®

TO ORDER BY MAIL: The direct price is \$99.95 for the Macintosh and Amiga versions. Send check, money order or VISA/MC information to: Electronic Arts, Direct Sales Dept. MU, P.O. Box 7530, San Mateo, CA 94403. Add \$3 for shipping and handling (\$5 Canadian). There is a 14-day, money-back guarantee on direct orders. Macintosh & LaserWriter, Sonata, Opcode Sequencer, and DeluxeMusic are trademarks of Apple Computer, Inc., Adobe Systems, Inc., Opcode Systems, Inc., and Electronic Arts, respectively.

Please circle 131 on reader service card.

125 Stacks MINIFINDERS 4

Public Domain/Shareware software at lowest prices

125 Stacks

150 Games

250 Desk Accessories

\$29.95 each

250 Pictures

225 Fonts

StackPak, 20 disk sets; volumes 1, 2, or 3

\$99.95 each

SuperStackPak (60 disks) includes all three StackPaks

FREE!

Call for free 180 page catalog

All sets on 800K disks. For 400K disks add \$5 to each set. Please add \$4.00 p/h. Outside US & Canada add 20%.



EDUCOMP 742 Genevieve, Suite D-6 Solana Beach, CA 92075 information: 619-259-0255

US (800)843-9497 CA (800)654-5181

Please circle 119 on reader service card.

"D" SIZE PLOTTER



- Repeatability .001"
- · Speed at 7" Per Second
- Vacuum Paper Hold Down
- · High Resolution Circles: Suitable for PCB Artwork

(415) 490-8380 ZERICON

STEVENSON BUSINESS PARK BOX 1669 • FREMONT, CA 94538

Please circle 221 on reader service card.





mentation. \$395, plus \$10 shipping. International, 8410 Oak Ridge Highway, Knoxville, TN 37931. NCP (Oct 87)

KidsTime is a package of five quality educational programs for children between the ages of 3 and 12. The programs all have adjustable difficulty levels. Some use speech and one is a nice introduction to musical notes. Sparse documentation. \$49.95. Great Wave. 5353 Scotts Valley Dr., Scotts Valley, CA 95066. NCP (Oct 86)

MacEdge and MacEdge II each contain 8 reading or math drill programs for basic skills. Programs follow one of three formats, a bit contrived. Contrivances are design flaws. \$49.95 each. Think Educational Software, 16 Market St., Potsdam, NY 13676. CP

MacType offers structured typing instruction. Can teach both standard and Dvorak keyboards. Features include certificates for reaching certain levels. Can be used in a multistudent environment. \$49.95. Palantir Software, 12777 Jones Rd., Houston, TX 77070.CP

MasterType is proof that learning to type can be fun. In this arcade-style action game words descend from four corners towards the center ship; the user must type them correctly. Features 18 skill levels, tracks errors, recommends lessons and provides comparison scores, \$49.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062, CP

Sensei Physics is a capable, intelligent, well-designed study aid. Covers \$\$\$\$½ Vectors to Thermodynamics to The Nature of Light. Animated experiments let you try out concepts. Requires 512K+. \$99.95. Broderbund Software, 17 Paul Dr., San Rafael, CA 94903. CP (Jan 88)

Subli-Mac is a self-hypnosis program, combining subliminal, relaxation and positive-self-image techniques. Flashes a brief user-written message (against a diversionary pattern) at your subconscious. Dangerous near hard disks. Manual suffers from terminal California-ese. \$39.95. Psy-Den, PO Box 248, Champlain, NY 12919. NCP (Jan 88)

ENTERTAINMENT

A Mind Forever Voyaging is a departure in text adventure games. It has a more extensive vocabulary and a more involved story than most of the genre. The story here is gripping, but there are only a few puzzles to solve. Requires 512K+. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP (Apr 86)

Alter Ego simulates the entire lifetime of a fictional character. The player's reaction to each multiple-choice event shapes the character's future relationships, job, health, etc. Spectacular the first time you play; after that there are too many similarities to previous characters. \$59.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (Jun 86)

The Ancient Art of War gives users a chance to refight some famous ttty campaigns on both strategic and tactical levels. Campaigns can also be designed from scratch. Very playable, addicting game. Requires 512K+ Mac. \$44.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903, CP (Apr 86)

Archon pits the forces of Light against Dark in a quest to gain control of ttty five Power Points on a checkerboard grid. The shifting cycles of squares' colors keep the balance of power ever-changing. One or two players. \$39.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. CP (Oct 86)

Balance of Power is the world's first computer peacegame. This simula-\$\$\$\$\$ tion allows players to become either the President of the United States or General Secretary of the Soviet Union. Extraordinary artificial intelligence routines and general play make this a classic. \$49.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60022. CP (Prem)

Battle Stations is a deceptively simple game based on the pen and paper game of Battleship. Requires strategy on several levels. Makes excellent use of Mac sound and graphics. Fun, casual game, especially when the Mac is one of the players. Requires 512K+. \$30. Timeline, PO Box 60, Ypsilanti, MI 48197. NCP (Jun 87)

Borrowed Time casts players as detectives who have to solve their own ttt murder - before it happens. This game requires players to think



SOFTWARE

HARDWARE

1-800-333-3353

Mad and

Acius	Microsoft	CMS Enhance
hth Dimension\$499.	Excel V1.04	20 Meg SCSI.
Ann Arbor	PowerPoint229.	60 Meg SCSI.
FullWrite Professional 177.	Works	80 Meg SCSI.
Ashton Tate	Word 3.01	Dove
Base Mac295.	The state of the s	MacSnap 524
Blyth Software	Migent	MacSnap 548 MacSnap 524
Omnis 3 Plus/w Express 299.	In-House Accountant	MacSnap 548
Borland	Mindscape	MacSnap Plus
Reflex59.	Graphic Works 1.158.	MacSnap Tool
Reflex Plus	Monogram	SCSI Interface
SideKick	Dollars & Sense 82.	Ergotron, Inc.
Turbo Pascal	Nantucket	MacTilt
Challenger	MacMax	MacTilt SE
Challenger Mac3D	Odesta	Hayes Microc
Cricket Software	Double Helix II	Smartcom II V
Cricket Draw 174.	Double Helix—Multiuser Call	Smartmodem
Cricket Graph	Peachtree Software	Smartmodem
Davidson & Associates	Back to Basics , 139.	Impulse MacNiffy Cours
Math Blaster32.	Softsync	MacNifty Soun
Digital, Ect.	Accountant, Inc 175.	Kensington M A-B Box
Turbo Maccountant266.	SuperMac Software	Control Center
Fifth Generation	DiskFit	System Saver
ast Back59.	Pixel Paint	Turbo Mouse .
nfosphere	Sentinel	Koala
MacServe 2.3 165.	Super Spool	Mac Vision
nnovative Data	Super LaserSpool89.	Lightgate, Inc
MacDraft158.	T/Maker	Felix
etraset	Write Now	Migent
Ready, Set, Go! 4.0279.	Think Technologies	Pocket Moden
Living Video Text	Lightspeed C	Softstyle
More 1.1 Color	Lightspeed Pascal	MacEnhancer
Macropac	InBox Personal Connection85.	Summagraph
01 Macros For Excel 49.	The same and the s	Mac Tablet 121
Mainstay	Word Perfect Corp. WordPerfect	US Robotics
/I.P	XOB	Courier 1200 .
Micro Planning Software	NFL Challenge	Courier 2400.
Micro Planner Plus 299.	NI L Challenge09.	Courier 9600.

CMS Enhancements	
20 Meg SCSI	575
60 Meg SCSI	795
80 Meg SCSI	,249
Dove	
MacSnap 524	199
MacSnap 548 MacSnap 524S	399
MacSnap 524S	259
MacSnap 548S	449
MacSnap Plus 2	299
SCSI Interface Port	aa
Ergotron, Inc.	. 55
MacTilt	7/
MacTilt SE	74
Hayes Microcomputer	
Smartcom II V2.2	88
Smartmodem 1200	299
Smartmodem 2400	
Impulse	-
MacNifty Sound Digitizer	139
Kensington Microware	
A-B Box	64
Control Center	. 64
System Saver Mac	
Turbo Mouse	. 79
Koala	
Mac Vision	175
Lightgate, Inc.	
Lightgate, Inc. Felix	. 99
MIGERI	
Pocket Modem	165
Softstyle	
MacEnhancer	174
Summagraphics	
Mac Tablet 1212	375
US Robotics	
Courier 1200	219
Courier 2400	
Courier 9600	

To Order Call 1-800-333-3353

Monday thru Friday 7 AM to 7 PM (Mountain Time) / Saturday 8 AM to 6 PM

- Visa & MasterCard accepted. No surcharge.
- Your Credit Card will not be charged until order is shipped.
- All U.S. Shipments are insured at no extra charge.
- We accept COD orders—Maximum \$1,000—\$2.00 surcharge.
- Arizona Residents add 6.5% sales tax.
- Allow 1 week for personal & company checks to clear.

All prices subject to change without notice.
All products are subject to availability.

*This offer (\$10.95 Value) has been such a success that the expiration date has been extended to 3/31/88.

Returns: Due to software copyright laws, all sales are final. Defective merchandise will be replaced immediately. Hardware replaced or repaired at our discretion. Questions Call (602) 820-8602

Shipping

All software orders add \$3.00.
All Hardware and Peripherals add ½% (\$3.00 minimum).
Shipments made by UPS ground.
UPS Second Day or Overnight Service Available.
Alaska, Hawaii, & Foreign Orders: Call for Details.
Accounts on net terms pay actual Shipping Costs.



4409 S. Rural Road Suite 200/Tempe, Arizona 85282/(602) 820-5802

MINIFINDERS 4

and act like a detective to solve the game. Good sentence parser, sketchy Macinterface. \$44.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (May 86)

Bridge 4.0 provides three other players and the cards for a game of rubber bridge. It's an average (Goren) bidder and a less than good card player. Good if it's the only game in town. Plays slowly since it's written in BASIC. \$29.95. Artworx Software, 150 N. Main St., Fairport, NY 14450, CP (Sep 86)

Bureaucracy is a paranoiac text adventure that dares you to move to a 114 new house and job and still maintain some degree of sanity, not to mention a low blood pressure. Written by Douglas Adams of Hitchhiker's fame. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP (Aug 87)

The Chessmaster 2000 is a masterful chess program that will appeal to \$\$\$\$\$ both novices and master. You can view the board from 2- or 3-D perspective and turn the board for a better look. Play is smooth and easy, and the program responds by voice. You may get tired of hearing "Gotcha," though. \$39.95. The Software Toolworks, 13557 Ventura Blvd., Sherman Oaks, CA 91423. CP (Jul 87)

Dark Castle is an outstanding achievement in action games which \$\$\$\$\$ integrates RealSound with superb animation and graphics. You'll need better-than-average hand/eye coordination, but it's well worth the effort. Requires 512K+. \$39.95. Silicon Beach, PO Box 261430, San Diego, CA 92126. NCP (Apr 87)

Deja Vu: A Nightmare Comes True is a graphic adventure that breaks tttt new ground. Innovative use of the Mac interface in truly playable and exciting game. A great introduction to graphic adventure games. \$49.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP (Jan 86)

Dinner at Eight is a useful recipe filing system that includes a collection ttt of recipes from a nationwide sampling of restaurants. Users enter number of diners and program scales recipes. \$49.95. Rubicon, 2111 Dickson Dr., Austin, TX 78704. NCP (Jan 86)

Down Hill Racer is an action game with three skier personalities, four ttt courses and four skill levels. There's something here for every player, no matter how bad or good. Full digitized sound (very nice!) \$49.95. Miles Computing, 7741 Alabama Ave., Canoga Park, CA 91304, CP (Sep 87)

Enchanted Scepters is a surround sound graphic adventure game. It has a limited vocabulary and virtually no story. Offers extensive and varied scenes and utilizes the Mac interface to the fullest. \$39.95. Silicon Beach, PO Box 261430, San Diego, CA 92126. CP (May 86)

Ferrari Grand Prix is an exciting race car simulation game. Mastering it takes quite a bit of time and effort. Startup course and four other courses are built into the program. You can also design your own courses and backgrounds. Requires 512K+. \$59.95. Bullseye Software, PO Drawer 7900, Incline Village, NV 89450. CP (Jul

Flight Simulator puts you at the controls of a small plane (prop or jet) and lets you roam North America. As difficult as real flying. Mac version has features not found on earlier versions, including spotter aircraft. Not all features available on 128K. \$49.95. Microsoft, 16011 NE 36th Way, Redmond, WA 98073-9717.

Fokker Triplane is about as near to flying as you can get seated in front of a computer. Very realistic simulation and excellent graphics. Well designed and implemented, \$59.95. Bullseve Software, PO Drawer 7900, Incline Village, NV 89450. CP (Feb.

Gato puts players in command of an American submarine in World War II. tttt. This superb simulation game uses all of the Mac's graphic capa-





We were sick and tired of having to open several folders every time we wanted to run our applications. We also hated having to search all over the disk for the same documents... day after day. We actually started to (gulp) hate the Finder.

We realized we were wasting a lot of time in the Finder doing the same things every day. We wanted to show the computer once what applications and files we used for our everyday tasks, and where they were located. We wanted to save descriptions of these tasks in 'script' files. We wanted to be able to double-click these 'script' files from the Finder and have them run the applications with the files needed to do the given task. We wanted all of this and more...

so we created ForeRunner.

ForeRunner is an application that allows you to easily build 'scripts' for each of your everyday tasks. A simple ForeRunner script might run one application with a few documents open, whereas a complex script could run several applications one-after-the-other without quitting to the Finder in between.

ForeRunner is so powerful and versatile that we can't fully explain it's capabilities here. The best way to really see what ForeRunner can do for you, is to get a copy for yourself. If you aren't sure yet, just send for the demo. Either way, we know you'll be using ForeRunner in the near future.

Plus \$2 Shipping

Send \$10 for a demo of ForeRunner & MenuFonts!

MenuFonts 2

Font

Cipple I Chicago

Courier

Cupertino

✓ Geneva

Helyetica

Hollywood

Kawasaki* Monaco

New York

Stockholm

Times Tokyo* Finally,

a REAL Font menu...

Once you install MenuFonts 2, all of your 'Font' menus will be transformed into what they should have been all along... Straightforward. Intuitive. Definitely Macintosh.

- · installation is as simple as dragging the MenuFonts INIT file into your System Folder
- now installs automatically in most applications that have 'Font' menus
- · now works with Microsoft Word, MacDraw and MacDraft
- · includes 'KeyScroll' for people with lots of fonts
- MultiFinder
- compatible runs on all Macintoshes

Plus \$2 Shipping

Included FREE are LockOUT & Fast Formatter!

TO ORDER YOUR COPY:

Send a check or money order to BEYOND, Inc. 3865 N. Oracle Rd. • Tucson, AZ 85705 • (602) 888-8667

VISA & MasterCard Accepted



Please circle 162 on reader service card.

bilities to really make you feel that "you are there." \$49.95. Spectrum HoloByte, 2061 Challenger Dr., Alameda, CA 94501. CP (Nov 85)

Grand Slam is an absorbing and realistic tennis simulation game. Practice or play tournament against Mac-controlled players with different styles and abilities on four different surfaces. 512K or Mac Plus. \$49.95. Infinity Software, 1331 61st St., Emeryville, CA 94608. CP (Nov 86)

HardBall is a baseball simulation game complete with umpire's calls and crowd sounds. Great graphics and a lot of fun for fans. \$44.95.

Accolade, 20813 Stevens Creek Blvd., Cupertino, CA 95014.

CP (Feb 87)

Hollywood Hijinx substitutes a modern Hollywood estate for the famous Underground Empire, but otherwise represents a return to Zork gameplay and feel. There's even a maze to navigate. Simplistic, but good. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP (Jun 87)

Klondike 3.3 is a version of solitaire that uses video game-like scoring to treate a superb, totally addictive game. Simple to play, nearly impossible to stop playing. Shareware: \$10. Unison Software, 415 Clyde Ave., Mountain View, CA 94043. NCP (Dec 87)

Leather Goddesses of Phobos is another in the long line of witty and entertaining Infocom text adventures. This one lets you choose your sex and comes with a 3D comic and a scratch 'n sniff card. It has three levels of play: tame, suggestive and lewd. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP (Feb 87)

Lode Runner is a 150-screen action-strategy challenge. Move around a grid of ladders and platforms collecting treasure; dig a hole to trap pursuers. Build your own challenges. \$39.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP

MacCourses adds four very challenging new courses to MacGolf.

Courses are swapped on the original MacGolf master disk two at a time. Nice add-on for a good game. Requires MacGolf. \$34.95.

Practical Computer Applications, 1305 Jefferson Hwy., Champlin, MN 55316. CP (Apr 87)

MacGolf is a dynamic simulation of real golf. Players have a choice of the courses and difficulty levels. Superb playability makes this a must for all golfers and gamers. Requires 512K+. \$59.95. Practical Computer Applications, 1305 Jefferson Hwy., Champlin, MN 55316. CP (May 86)

MacMan is a two-part package. The software portion is a decent *Paction Man*-like game. The hardware part is a tiny converter that lets you use a joystick with a Mac or Mac Plus. \$39.95. Nuvo Systems, 225 Tank Farm Rd., San Luis Obispo, CA 93401. CP (Aug 87)

Mac Pro Football is a terrific sports simulation that gives you the chance to pit any combination of 38 Super Bowl teams against each other and direct team play. It comes with excellent, detailed (and necessary) documentation. Play selection can get a bit Byzantine. \$49.95. Avalon Hill, 4517 Harford Rd., Baltimore, MD 21214. CP (Mar 87)

MacRacquetball uses digitized videos and sounds of professional players for a realistic simulation. Has lots of control settings and can be played against someone else over a modem or between hard-wired Macs. Turn off hard disks before playing. \$59.95.

Practical Computer Applications, 1305 Jefferson Hwy., Champlin, MN 55316. CP (Oct 87)

Make Millions is a fascinating business simulation in which the player
\$\$\$\$\$\$ competes against the computer to take control of five companies, then run them profitably. Appeals to the closet capitalist in
all of us. \$49.95. Scarborough Systems/Mindscape, 3444 Dundee, Northbrook, IL 60062. CP

Maze Survival challenges players to destroy maze walls before roving bugs squash themselves against it. Bugs lay eggs to spawn a new generation. Repetitive. \$34.95. Olduvai Software, 7520A Red Road, South Miami, FL 33143. NCP (Aug 87)

MazeWars+ is an interactive, multiplayer game to be played on Apple1111 Talk or through a modem link. Chase opponents through a four level maze. Requires 512K+, AppleTalk or Hayes compatible modem. \$49.95. MacroMind, 1029 W. Wolfram, Chicago, IL 60657. NCP (Nov 86)

MicEdGames is a collection of five educational games, MicAlphabetize,
MicTime, MicStates, MicMatch and MicSpell, supposedly for
ages 5 to adult. Games are sometimes cute but generally poorly
designed. Manual is poorly written. Some entertainment value.
\$19.95. MicEdWare, 4265 Midland Rd., Saginaw, MI 48603.
NCP (Dec 87)

Mind Over Mac features five games. Entertainment for the whole family.

\$\$\$\$ Good graphics paired with synthesized sound and on-screen help. \$49.95. Think Educational Software, 16 Market St., Potsdam, NY 13676. CP (Feb 86)

MoonMist is an introductory level text adventure game. This is a typical haunted English castle story, not quite up to Infocom's best. It has four versions, so it's good for more then one play. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. NCP (May 87)

NewGammon is animated backgammon that will challenge even good players. Features include variable skill levels and strategies and options to play the Mac or watch the Mac play itself. An arcade-like high speed mode is included. \$39.95. Newsoft, PO Box 3046, Newport Beach, CA 92663. CP

NFL Challenge simulates coaching and watching professional football.

Comes on two disks, one with program and System, the other statistical data. Play against either human or computer coaching. Plays are selected from pre-defined playbooks. \$99.95.

XOR Corp., 5421 Opportunity Ct., Minnetonka, MN 55343. NCP (Jun 87)

Ogre is a strategy tank game played on a hexagon grid. The ogre is an intelligent cybertank out to smash your command post. Customize your defense. Exceptionally good Mac interface. Has two-player option. \$30. Origin Systems, 136 Harvey Rd., Building B, Londonderry, NH 03053. CP (Nov 87)

Orbiter puts a real space shuttle on the Mac screen. A multitude of the Mac screen. A multitude of controls, intelligent on-board computer with speech capabilities, real-time graphics and 16 distinct missions help this program succeed as both a game and a simulation. \$49.95. Spectrum HoloByte, 2061 Challenger Dr., Alameda, CA 94501. NCP (Jul 86)

Orbquest is a fantasy role-playing adventure with better-than-average puzzles and an excellent sense of humor. Not as sophisticated as some, but a good value. \$49.95. QWare, PO Box 850415, Richardson, TX 75085. CP (Dec 86)

Patton vs. Rommel is a traditional-style strategic war game. It covers events in Normandy in 1944. While complex, it's well designed and very playable. \$39.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. CP (Apr 87)

The Pawn is an unusual British interactive adventure game with text and graphics. The unique interface has some drawbacks, but *The Pawn* has humor, social satire, is entertaining and is challenging. \$44.95. Requires 1M+. Firebird, PO Box 49, Ramsey, NJ 07446. CP (Mar 87)

Pinball Construction Set lets users create their own pinball games, as elaborate or as easy as desired. Uses MacPaint for backgrounds and has lifelike sounds (on 512K+ Macs). \$39.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. CP (Jan 86)

Plundered Hearts brings gothic romance to interactive fiction in the familiar Infocom mode of puzzles, mazes and riddles. You play a 17th century heroine dodging pirates to rescue her wrongly imprisoned father. Medium difficulty. \$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA 02140. CP (Jan 88)

Portal is an intriguing science fiction novel for kids that suffers from having a poor interface. Storyline: all of humanity is missing and you have to search through a data base for files that reveal the mystery. Nothing in the way of role-playing, and the Mac version is slow and buggy. \$49.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (Oct 87)

Puppy Love is a combined game and teaching tool. As you teach your \$\$\$\$\frac{1}{2}\$ puppy tricks and routines, you learn the basics of programming logic. Great fun for all ages. Does not run from a hard disk. \$29.95. Addison-Wesley, Route 128, Reading, MA 01867. CP (Mar 87)

Quarterstaff (v. 1.2) is a fantasy adventure game of the typical "good tyse vs. evil" variety. Ability to use characters in other adventures gives this game a lot of potential for development. Requires

BUY WITH CONFIDENCE

★ 30 day Money back Guarantee! ★ Prompt Shipping! **★** Knowledgeable Salespeople! ★ Free Technical Support!

Mail Order Worldwide Since 1978

Macintosh Plus Entry System

System includes

- Macintosh Plus Computer with 1 Megabyte of Ram Keyboard and Mouse
- 1 Internal 800K Floppy Ehman 800K External
- Floppy Drive Imagewriter II Printer Printer Cable
- HyperCard Software
- Maxell Diskettes Box of 10

ıter sales

- Computer Paper Package of 500 Dust Cover for Macintosh Plus
- Dust Cover for
- Imagewriter II Head Cleaning Kit Mouse Pad

CDA Price \$2399

Macintosh SE Super System

Complete System includes: Macintosh SE Computer with 2 Internal 800K Drives Megabyte of Ram

- Keyboard and Mouse

 Imagewriter II Printer

READY-TO RUN APPLE MACINTOSH SYSTEM

- Imagewriter Cable
 HyperCard Software
- Maxell Diskettes
- Box of 10 Dust Cover for the Macintosh SE
- Dust Cover for Imagewriter II
- Head Cleaning Kit
- Mouse Pad

CDA Price \$2749

Macintosh SE/20 Super System

Same as the above system but includes the Macintosh SE with built in 20 megabyte hard disk and 1 internal 800K floppy!

CDA Price \$3349

Macintosh II/40 Graphic System

Complete System includes:

• Macintosh II Computer
with 40 Megabyte

Hard Drive 1 Megabyte of Memory Extended Keyboard and Mouse Macintosh II Video Card

- Apple Color High Resolution RGB Monitor
- Imagewriter II with cable
- Hypercard Software
- Maxell Diskettes Box of 10 Case of Computer
- Paper 1100 sheets

 Dust Cover for the
- Macintosh II/Monitor Dust Cover for the
- xtended Keyboard
- Head Cleaning Kit Mouse Pad

CDA Price \$5999

Above system with 20 Megabyte Hard Disk Specify Package #8804

CDA Price \$5399

Above system with 80 Megabyte Hard Disk Specify Package #8806

CDA Price \$6999

System of the Month SE Monster System

Complete System includes:
• Macintosh SE/40

- with 40 Megabyte CMS Hard Drive 1 800K Floppy Drive 2.5 Megabytes of Ram Extended Keyboard and Mouse
- Imagewriter II with Cable
 Mac Memory Turbo SE
- Accelerator
- HyperCard Software
 Box of 10 Maxell Diskettes
- Dust Cover for Macintosh SE Dust Cover for Extended Keyboard
- Dust Cover for Imagewriter II
 Kensington Power
- Point Mouse

 Deluxe Teak 40 Diskette
 Storage Box

CDA Price \$4995

	Words -		Memory Upgrades	
	Macintosh Accessories Apple		Upgrade your memory starved Mac	
	Macintosh Plus	\$1599	Apple 1 Megabyte Upgrade (4 256 K Modules)	209
	Apple 3.5 Drive Macintosh SE w/keyboard	319 2249	Mac II to 2 Megabytes	200
	Macintosh SE20 w/keyboard	2899 199	2 Megabyte Upgrade (2.1 Meg SIMM Modules)	529
=	Apple Extended Keyboard AST Research		Mac SE to 2.5 Megabytes or use	100
2	AST Mac 86	429	2 upgrades to 4 Megabytes 4 Megabyte Upgrade	
М	Bose Roommate II Speakers	229	(4.1 Meg SIMM Modules)	1100
	Central Point		Mac II to 5 Megabytes or use 2 upgrades to 8 Megabytes	
0	800K Drive Dove	185	Dove	
6	MacSnap SCSI (Mac 512)	129	Mac Snap 524 (Mac 512) Mac 512 to 1 Megabyte	149
8	Covercraft Deluxe Carrying Case SE	89	Mac Snap 524E (Mac 512E)	149
1	Dust Cover For Mac II Dust Cover For Mac SE	18	Mac 512E to 1 Megabyte Mac Snap 524S (Mac 512E)	229
	Dust Cover for Mac Plus	14	May 512F to 1 Megabute/SCSI	
0	Dust Cover for Imagewriter II	7	Mac Snap 548E (Mac 512E) Mac 512E to 2 Megabytes Mac Snap 548S (Mac 512E) Mac 512E to 2 Megabytes/SCSI	429
P	Ehman 800 K Drive	199	Mac Snap 548S (Mac 512E)	599
=	Kensington	69	Mac 512E to 2 Megabyles/SCSI Mac Snap Plus 2 (Mac Plus)	299
5	System Saver Mac Turbo Mouse 512/Plus	89	Mac Plus to 2 megabytes	
y	Turbo Mouse Mac SE/II	89 29	MacMemory Max Plus Mega	359
J	Mac Tilt/Swivel Printer Muffler 80	49	Mac Plus to 2 Megabytes	
	Mouse Pocket	9	CDA Top 20 Software 1. HyperCard by Apple	42
RDWARE/SOFTWARE/ACCESSORIES If you don't see it-call	Mouse Way-Mouse pad MacMemory Inc.		2. Microsoft Word 3.1	239
H	Turbo SE	449	Microsoft Excel MacTerminal	199
Z	Macintosh II Apple Hardware		5. MacWrite by Apple	99
	Macintosh II w/ext. Keyboard	3149	6. FullWrite 7. Scoop	179 349
0	Macintosh II 40 w/ext. Keybd. Mac II Video Display Adapt.	4399 399	8. Illustrator by Adobe	339
S	Mac II Video Expansion Kit	99	Suitcase Cricket Draw	179
S	Mac II Monochrome Monitor Mac II RGB Monitor	329 799	11. Microphone	119
H	PC 5.25 Drive Mac II Drive Card	329 109	12. Red Ryder 10.0 13. Multifinder System	65
C	AST Research		14. Cricket Graph	129
O	AST Mac 286 AST ICP-2 Comm Processor AST ICP-4 Comm Processor	1079 749	15. Microsoft Works 16. Write Now	195
	AST ICP-4 Comm Processor	799	17. MacDraw by Apple	149
7	Monitors Cornerstone Technologies		18. Read-It 19. Filemaker Plus	239 209
山	19° Monochrome (Mac II)	1899	20. Quick Keys	75
\sim	E-Machines Big Picture (512, Plus, SE, Mac II)	1595	New Titles d-Base Mac by Ashton Tate	339
	Big Picture IQ	2349	Word Perfect	229
7	Nec Multisync Plus JC-1501	999	Focal Point (Hyperware) Business Class (Hyperware)	65
5	Multisync XL JC-2001	2395	Hard Drives	
1	Sigma Designs Laserview 15" Mono (SE/Mac II)	1365	CMS 20 Megabyte MacStack	595
H	Laserview 19" Mono (SE/Mac II)	1799	43 Megabyte MacStack	895 1049
0	Sony Multiscan RGB Analog I 302 (II)	699	60 Megabyte MacStack 80 Megabyte MacStack	1335
in	SuperMac SuperView (HiRes MonoCard/SE)	379	140 Megabyte MacStack 40 Megabyte TapeStack	2295 769
*	Graphix (HiRes Mono Card/II)	379	PCP	
E	19" Monochrome Monitor Super Spectrum Color Card	1288 1149	MacBottom 21 Meg MacBottom 32 Meg	749 899
\mathbf{x}	19" Color Monitor	2395	MacBottom 45 Meg	1149
4	19" Color Trinitron 16" Color Trinitron	2945 2049	SuperMac Dataframe XP30	899
	Printers	2049	Dataframe XP60	1299
>	(pricing includes cables)	479	Dataframe XP60+40 Tape Rodime	1849
	Apple Imagewriter II Apple Imagewriter Sheetleeder	179	20 Plus	739
~	Apple Imagewriter LQ	1099 3599	45 Plus Internal Hard Drives	1139
	Apple Laserwriter Apple Laserwriter Plus	4099	Apple	
1	AST TurboLaser PS	3195 69	Hard Disk 20 MacSE/II Hard Disk 40 Mac II	809 1295
1	Orange Grappler Mac Orange Grappler Mac 24 Wire	69	Hard Disk 80 Mac II	2190
8	Orange Grappler Mac 24 Wire NEC LC-890 QMS PS-800 (LaserConnection)	3695 4095	Pro 20 Mac II (65ms)	509
7	Modems and Communications	4093	Pro 40 MacSE/II (29ms)	965
\approx	Pricing includes Modem Cable Apple		Pro 40 MacSE (rear) Pro 43 Mac II (40ms)	995 895
\mathcal{C}	Apple Personal Modem	319	Pro 60 Mac II (40ms)	1095
MACINTOSH HA	Epic Internal 2400 Baud for Mac II	349	Pro 80 Mac II (26ms) Pro 102 Mac II (28ms)	1295
4	Internal 2400 Baud for Mac SE	349	Pro 140 Mac II (28ms)	2195
	Prometheus Promodem 1200 Expandable	249	Scanners & Scanning Devices	
\mathbf{y}	Promodem 1200 Non-Exp.	179	AST TurboScan	1599
Q	Promodem 2400 Expandable Promodem 2400 Non-Exp.	349 599	Microtek	
7	Mac Pac ProCom	39	MS 300A MS 300C	1995 1319
	Mignet	-639-	MSF 300G MSF 300C	1479
	Pocket Modem 1200 Modem Cables	169	Scanner SCSI Option	1479
	Macintosh 128/512	19	Thunderware Thunderscan	199
	Macintosh Plus/SE/II	19	Thurberscan	199

NO-RISK 30-DAY SATISFACTION GUARANTEE If you're not 100% satisfied with any Hardware or Accessories purchased from CDA Computer Sales. we will refund your purchase price 100% no questions asked! FREE TECHNICAL SUPPORT We support our customers with knowledgable technicians on all products we sell. • ORDER VIA TELEPHONE - Toil-Free 800-526-5313, in N.J. 201-728-8080 • ORDER VIA MAIL - Write: CDA Computer Sales P.O. Box 648, West Milford, NJ 07480, Please include full name, address, phone number • ORDER VIA COMPUSERVE'S ELECTRONIC MALL - 24 hours a day! GO CDA • FREIGHT - UPS ground shipping -add 2% of total order (\$3.50 minimum); APO/FPO - add 4% (\$4.50 minimum), Alaska, Hawaii, PR add 6% (\$6.50 min.). Two-Day Delivery, Overnight Delivery and Foreign Orders -Please Call

1M+. \$49.95. Simulated Environment Systems, 800 South Pacific Coast Hwy., Redondo Beach, CA 90277. NCP (Mar 88)

Real Poker is five-card draw against five other players with Old West \$155% names, distinct personalities and playing styles, in a saloon setting. Dealing and play are very fast. Game evaluates your hand. \$39.95. Henderson Associates, 980 Henderson Ave., Sunnyvale, CA 94086. CP

Seven Cities of Gold is an educational program masquerading as an adventure game and is practically unique in being equally good in both respects. You are to land (not the easiest part) in the New World and attempt to placate the natives, seed a few missions and collect gold. Nice work if you can get it. \$39.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. CP (Jun 87)

Shadowgate is an icon-based graphic adventure. You, as the seed of \$\$\$\$\frac{1}{2}\$ prophecy, must save the world from the evil warlock. Far surpasses all others with great animated graphics, sound and adventure. \$49.95. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP (Dec 87)

Shanghai challenges players to clear a board of all 144 tiles by matching pairs of mah-jongg tiles and removing them. Terrific strategic options plus the ability to randomly generate new game boards keep this one fresh. \$44.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (Nov 86)

Skyfox is a sophisticated 3D shoot-em-up. You're fighting tanks, planes and enemy cities floating in the sky. Fast graphics, good sound, slick, on-board attack computer and many levels of difficulty will keep fans of this genre happy for hours. \$39.95. Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404. CP (Oct 86)

Smash Hit Racquetball is an accurate and entertaining simulation of a \$\$\$\$\frac{1}{2}\$\$ day on the courts. Digitized sound adds to the realism. Includes a hard disk install, unusual for a game. The low price makes this the perfect Mac gift. \$19.95. Primera Software, 650 Cragmont Ave., Berkeley, CA 94707. CP (Dec 86)

Snake-Bar lets you guide a snake (or train or semi) through a maze picking up objects that feed and make your snake grow. Options include changing languages, editing the maze, and an X-rated game. \$15. (shareware). Georges Malamound, 37 Bis rue des Abbesses, Montmartre, 75018 Paris, France. NCP (Dec 87)

Space Quest is a three-dimensional, animated adventure in which you state play a janitor in a dicey situation. All you have to do is get off your ship before it explodes and save the Earnon System. Runs on any Mac. \$49.95 Sierra On-Line, PO Box 485, Coarsegold, CA 93614. CP (Sep 87)

Stationfall is the sequel (finally) to Infocom's excellent Planetfall text

\$\$\\\^2\\ \adventure. Reunited with Floyd and sent to pick up requisition
forms, you must solve the empty space station problem. As
straightforward as other Infocom games; more so than some.
\$39.95. Infocom, 125 CambridgePark Dr., Cambridge, MA
02140. NCP (Nov 87)

Strategic Conquest Plus challenges you to discover an unexplored \$\$\$\frac{1}{2}\text{2}\text{world} and conquer it by manufacturing and deploying armies, ships and planes. A two-disk game that doesn't support an external drive. Requires 512K+. \$59.95. PBI Software, 1111 Triton Dr., Foster City, CA 94404. CP (Feb 88)

Tass Times in Tone Town is a slightly off-the-wall graphic adventure in which you need a flashy hairdo and a jumpsuit before you can get anywhere, and you pay for things with guitar picks. Decent puzzles, with a sense of humor. \$44.95. Activision, PO Box 7287, Mountain View, CA 94039. CP (Jan 87)

The Toy Shop is a construction kit for building 20 different working model toys. Some parts can be customized. Manual gives clear instructions, but many toys are too complex for a child. \$49.95. Broderbund, 17 Paul Dr., San Rafael, CA 94903. CP (Nov 86)

Trust & Betrayal: The Legacy of Siboot requires negotiating with 6

\$\$\$\$\frac{1}{2}\$ artificial personalities in a struggle for power — not surprising considering that it comes from the maker of Balance of Power.

Uses hieroglyphics to communicate in a fantasy world. Requires 512K+. Mindscape, 3444 Dundee Rd., Northbrook, IL 60062. CP (Mar 88)

Ultima III allows up to four characters to cooperate to explore the vast ttt wilderness of Sosaria. \$59.95. Origin Systems, 340 Harvey Rd., Manchester, NH 03103. CP

Uninvited is an icon-based adventure game set in an extremely haunted mansion. Since you access the parser by double-clicking, command choices are always visible — you don't waste time trying to figure out which words the program understands. It has animation and sound. \$49.95. Mindscape, 3444 Dundee, Northbrook, IL 60062. CP (Sep 86)

Winter Games lets up to eight players compete against each other in Olympic events including figure skating, bobsledding, biathlon and ski-jumping. Excellent animation, good graphics, good theme music. \$39.95. Epyx, 600 Galveston Dr., PO Box 8020, Redwood City, CA 94063. CP (Mar 86)

Wizardry is an outstanding dungeon exploration adventure pitting a \$\$\$\$\$\$ party of up to six characters against the guardian monsters of the evil wizard Werdna. Capture his amulet to earn your reward. Even after solving the game, you'll want to go back into the dungeon. \$59.95. Sir-Tech, Charlestown-Ogdensburg Mall, PO Box 245, Ogdensburg, NY 13669. CP

WordPlay is a word game with over 50 crossword puzzles for different levels of expertise. User friendly, it offers on-screen Help menus. A Work mode allows development of new puzzles for the creative. \$49.95. Palantir, 12777 Jones Rd., Houston, TX 77070. NCP (Mar 86)

World Builder is an adventure game construction set with what amounts to its own programming language. The whole program (language including) is easy to learn and produces commercial quality games. No support for the programming language, though. \$79.95. Silicon Beach, PO Box 261430, San Diego, CA 92126. NCP (Apr 87)

Xyphus is a role-playing game pitting four characters (fighters or wizards)

against multiple scenarios that grow increasingly harder. Excellent Mac interface and icon control. \$39.95. Penguin, PO Box 311, Geneva, IL 60134. CP

Your Personal Poet creates personalized greeting cards on the Mac.

\$\$\$\\\^*\\$ Comes complete with four greeting cards and matching envelopes. Does not run when connected to a LaserWriter. Requires 512K+. \$29.95. Computer Poet Corp., PO Box 7707, Incline, NV 89450. NCP (Jun 87)

Zork II is where the adventure continues in the underground empire. A \$\$\$\$\frac{4}{3}\$\$ wandering wizard keeps things interesting, though there's a way to beat him if you persevere. \$44.95. Infocom, 125 Cambridge-Park Dr., Cambridge, MA 02140. NCP

Zork III is the final chapter in the trilogy. Players come up against the ultimate enemy — the Dungeonmaster himself. More closed-ended than previous *Zorks*. \$44.95. Infocom, 125 Cambridge-Park Dr., Cambridge, MA 02140. NCP

MUSIC

ConcertWare + is an enhanced version of ConcertWare. Has different instruments and can use any four of a set of eight at any point in a piece. Can read and use ConcertWare and MusicWorks files. \$69.95. Great Wave Software, 5353 Scotts Valley Dr., Scotts Valley, CA 95066. NCP (Nov 85)

ConcertWare + MIDI is a composition and transcription program that tasks can record multiple notes from a MIDI keyboard. Easy to use if you read music. Handles 8 tracks of 8 voices each. Requires 1M+. Version 4.0. \$149.95. Great Wave Software, 5353 Scotts Valley Dr., Scotts Valley, CA 95066. NCP (Dec 87)

Jam Factory is a program for performing complex manipulations on MIDI data in real time. Unique, entertaining and very powerful, but requires lots of patience and practice. Requires 512K+, MIDI interface and MIDI synthesizer. \$189. Intelligent Computer Music Systems, PO Box 8748, Albany, NY 12208. CP (Oct 87)

Listen is an educational tool for ear training. It has both a piano keyboard and a guitar fretboard for the student to input notes, and offers a wide range of exercises. \$39. Resonate, PO Box 996, Menlo Park, CA 94026. (Jan 87)

M is a music composition and creation program that works with MIDI data in real time. Unique, entertaining and very powerful, but requires lots of patience and practice. Requires 512K+, MIDI interface and MIDI synthesizer. \$219. Intelligent Computer Music Systems, PO Box 8748, Albany, NY 12208. CP (Oct 87)

AD INDEX

RS#	ADVERTISERS	PAGE	RS#	ADVERTISERS	PAGE	RS#	ADVERTISERS PAGE
65	3COM	143	30	Dow Jones	213	87	Open Mac Enterprises 68
163	ABA Software, Inc		108	Dubl-Click Software		14	Palantir230
171	ABA Software, Inc	171	110	Durable Solutions Inc	250	107	Paragon 252
82	Absoft		70	Dynamac Computer	201	75	Peripheral Land, Inc 30
212	Access Software	205	18	E-Machines		12	Personal Computer
76	Acius, Inc		119	Educomp			Peripherals Corp 153
117	Adobe	. 158-159	130	Electronic Arts	253	60	Personal Training Systems 62
6	AEC Management System	ıs 15	131	Electronic Arts		61	Personal Writer Inc91
25	Aldus Corporation		187	Ergotron Inc	181	101	Practical Computer
240	ALSoft, Inc	26	151	Everex Systems		1	Applications, Inc 145
240	ALSoft, Inc		146	Fifth Generation Systems	, Inc. 111	226	Precision Data Products 268
NA	Anthro Corporation	12	215	First Aid		69	Programs Plus, Inc 56-59
NA	Apple Computer, Inc	64-65	22	Fox Software	251	5	Public Domain Exchange 268
98	Asher Engineering	266	139	GDT Software Inc	250	85	Quark, Inc
124	Ashton-Tate Corporation	70-71	175	Greene Inc	42	154	Radius34-35
190	AST Research, Inc	98-99	57	James River	165	92	Rodime, Inc7
42	Avery	47	59	Jasmine Technologies, Inc.	c 45	NA	Round Lake Publishing Co 79
237	Bede Tech	267	72	Jasmine Technologies, Inc.	c 155	211	S.R.T4
15	Bedford Software Corp	48-49	58	Jasmine Technologies, Inc.	c 209	150	Safeware 79
7	Bering Industries	177	53	Jasmine Technologies, Inc.	c211	NA	Saving Zone, The 248-249
23	Berkeley System Design	90	48	JDL Incorporated	78	157	SBT Corporation 104
162	Beyond, Inc		138	KAO Corporation	191	172	Second Wave, Inc 218
97	Bible Research Systems		144	Kensington	24	112	Sensible Software, Inc18
128	Borland International Ca		142	Kensington	C5	199	Sequoia mb 47
158	Borland International	39	238	Kent Marsh Ltd		64	Shana Enterprises Inc 142
9	Borland International		223	Laser Connection		127	Softsync, Inc
137	Borland International		NA	Living Videotext	190	115	Softview 55
8	BrainPower, Inc		NA	Living Videotext		167	Software Supply 183
234	Bravo Technologies Inc		173	Lundeen & Associates		169	Software Supply 185
74	Budgetbytes		NA	MacConnection		161	Solutions International 43
175	CasadyWare		83	MacLand		55	Spectrum Digital74-75
89	CDA Computer Sales		28	MacProducts USA		39	Spectrum HoloByte31
38	CE Software	179	152	MacRENTALS		NA	SuperMac 66
105	Central Point Software	229	165	MacStore, Inc		NA	SuperMac 88-89
183	Claris		193	MacroMind, Inc		NA	SuperMac 138-139
37	CMO		NA	MacWarehouse		NA	SuperMac
43	CMS Enhancements, Inc.		160	Magic Software, Inc		NA	Survivor Software Ltd 86
195	Co-Du-Co		2	Mainstay		147	Survivor Software Ltd 87
46	CompuServe		194	Manx Software Systems		210	Symmetry Corporation 233
202	Computer Cover Co		227	Mass Micro Systems		36	Systat, Inc 197
200	Computer Friends		41	Meca		29	T/Maker Company 69
56	Computer Friends		145	Mega Graphics	137	197	Think Technologies11
106	Coral Software		73	Micro Brokers		236	Thunderware 219
133	Cricket Software		102	Microlytics, Inc.		204	TOPS
134	Cricket Software		81	Micron Technology, Inc		206	Turner Hall 144
184	Custom Memory		86	Microsoft Corporation		123	Tussey Computer Products 231
104	Cutting Edge, Inc		140	Microtech Peripherals, Inc		153	Uptime5
176	D2 Software Inc			5 Microtek		209	Vano Associates
155 203	DataViz Inc.		95	Monogram		125	Versacad 100
	Dayna Communications, I		94	Monogram		185	Videx
84	Deneba Software		186	MSC Technologies, Inc		178	Warp Nine Engineering 241
96	Diehl Graphsoft, Inc		213	Nashoba Systems, Inc		230	Xor
120 51	Diskette Connection		91	Nikrom		221	Zericon
01	Diversified I/O, Inc	10	121	Olduvai Corporation	14		

FREE INFORMATION FAST!

ON MACINTOSH PRODUCTS & SERVICES

Here's how you can get more information on products or services advertised in **MacUser**.

Completely Free!

- Print your name and address clearly in the spaces provided on the card opposite.
- Circle the number(s) on the card corresponding to the reader service numper(s) for advertised products or services in which you're interested. You can request information on any products or services in which you are interested, providing a reader service number appears in each advertisement!

NO COST!

- For quick reference, we have included both the bage number and the eader service number on the Ad index.
- Now's the time to subscribe to MacUser. Just check the appropriate box on the attached card and we'll send you 12 issues, a full year for only \$19.97—and we'll bill you later!

NO OBLIGATION!

Detach and mail the ard. Literature on the roducts or services you ave indicated will be sent irectly to you from the dvertiser, free of charge. Io postage is necessary your card is mailed in ne United States.

MacUser	READER SERVICE CARI	
	Void after June 30, 19	98
Name	Phone ()	_
Company	Title	
Address		
City	StateZip	
Which of the below best describes your job responsibilities? □ a) Top Management □ b) Department Manager □ c) Owner □ d) Other What are the approximate number of employees in your company? □ e) 25 or less □ f) 26-99 □ g) 100-499 □ h) 500-999 □ i) 1000 or more In the next six months, how many computers will yo personally buy or influence the purchase of? □ j) 1 □ k) 2-5 □ l) 6-9 □ m) 10-24 □ n) 25 or	computer each week? o) Less than 2 hrs. o) 2-6 hrs. o) 6-10 hrs r) 10-20 hrs. os) Over 20 hrs. 5. Do you plan to buy additional computer equipment within the next six months? ot) Yes ou) No 6. Is this your personal copy of MacUser? ou v) Yes w) No	
 Please send me a one year subscription to MacUs \$47.50. (Annual basic subscription price is \$27.0) 	User for \$19.97. I'll save 58% off the newsstand price of 00.)	82
2 12 22 32 42 52 62 72 82 92 102 112 122 132 142 3 13 23 33 43 53 63 73 83 93 103 113 123 133 143 4 14 24 34 44 54 64 74 84 94 104 114 124 134 144 5 15 25 35 45 55 65 75 85 95 105 115 125 135 145 6 16 26 36 46 56 66 76 86 96 106 116 126 136 146 7 17 27 37 47 57 67 77 87 97 107 117 127 137 147	151 161 171 181 191 201 211 221 231 241 251 261 271 281 221 252 162 172 182 192 202 212 222 232 242 252 262 272 282 283 153 163 173 183 193 203 213 223 233 243 253 263 273 283 283 154 164 174 184 194 204 214 224 234 244 254 264 274 284 281 155 165 175 185 195 205 215 225 235 245 255 265 275 285 283 156 166 176 186 196 206 216 226 236 246 256 266 276 286 283 157 167 177 187 197 207 217 227 237 247 257 267 277 287 283 158 168 178 188 198 208 218 228 238 248 258 268 678 288 28	92 93 94 95 96

MacUser

READER SERVICE CARD

Void after June 30, 1988

MU3881

Name	Phone ()
Company	Title
Address	
City	_StateZip
Which of the below best describes your job responsibilities? □ a) Top Management □ b) Department Manager	 4. On average, how much time do your spend on a computer each week? □ o) Less than 2 hrs. □ p) 2-6 hrs. □ q) 6-10 hrs.

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300

- ☐ c) Owner ☐ d) Other

 2. What are the approximate number of employees in
- What are the approximate number of employees in your company?
- your company?

 ☐ e) 25 or less ☐ f) 26-99 ☐ g) 100-499
 ☐ h) 500-999 ☐ i) 1000 or more
- 3. In the next six months, how many computers will you personally buy or influence the purchase of?

 □ j) 1 □ k) 2-5 □ l) 6-9 □ m) 10-24 □ n) 25 or more
- □ r) 10-20 hrs. □ s) Over 20 hrs.

 5. Do you plan to buy additional computer equipment within the next six months?
 □ t) Yes □ u) No
- 6. Is this your personal copy of MacUser?

 □ v) Yes □ w) No

□ Please send me a one year subscription to MacUser for \$19.97. I'll save 58% off the newsstand price of \$47.50. (Annual basic subscription price is \$27.00.)

1 11 21 31 41 51 61 71 81 91 101 111 121 131 141 151 161 171 181 191 201 211 221 231 241 251 261 271 281 291 2 12 22 32 42 52 62 72 82 92 102 112 122 132 142 152 162 172 182 192 202 212 222 232 242 252 262 272 282 292 3 13 23 33 43 53 63 73 83 93 103 113 123 133 143 153 163 173 183 193 203 213 223 233 243 253 263 273 283 293 4 14 24 34 44 54 64 74 84 94 104 114 124 134 144 154 164 174 184 194 204 214 224 234 244 254 264 274 284 294 5 15 25 35 45 55 65 75 85 95 105 115 125 135 145 155 165 175 185 195 205 215 225 235 245 255 265 275 285 295 61 62 63 64 65 66 67 68 6 96 106 116 126 136 146 156 166 176 186 196 206 216 226 236 246 256 266 276 286 296 7 17 27 37 47 57 67 77 87 97 107 117 127 137 147 157 167 177 187 197 207 217 227 237 247 257 267 277 287 297 8 18 28 38 48 58 68 78 88 98 108 118 128 138 148 158 168 178 188 198 208 218 228 238 248 258 268 278 288 298 9 19 29 39 49 59 69 79 89 99 109 119 129 139 149 159 169 179 189 199 209 219 229 239 249 259 269 279 289 299 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300

COMPLETELY FREE!

NO COST!

NO OBLIGATION!

FREE INFORMATION FAST!

ON MACINTOSH PRODUCTS & SERVICES



NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES COMPLETELY FREE!

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 33854 PHILADELPHIA, PA

POSTAGE WILL BE PAID BY ADDRESSEE

MacUser

P.O. Box 40008 Philadelphia, PA 19106-9931

fudlidaaallilaadlahdadadadlahallid

NO COST!



FIRST CLASS PERMIT NO. 33854 PHILADELPHIA, PA

POSTAGE WILL BE PAID BY ADDRESSEE



P.O. Box 40008 Philadelphia, PA 19106-9931

المالينا والمارا والمارا والمراا والمراا المرااط

NO OBLIGATION!

Master Tracks Pro is a full-featured, second-generation MIDI sequencer that adheres to the Mac interface very well. It's the first program to have a graphic controller. Needs patch chasing for professional use, but it's still a rock-solid program. \$350. Passport Designs, 625 Miramontes St., #103, Half Moon Bay, CA 94019. CP (Dec 87)

MIDIBasic is a simple, but highly useful routine for writing MIDI software.

\$\$\frac{4}{3}\$\$ Good stuff. Sketchy documentation. Works with both *Microsoft* and *ZBasic*. Requires 512K+ plus Basic. \$49.95. Altech Systems, 831 Kings Highway, Shreveport, LA 71119. NCP (Aug 87)

Music Mouse is a music program in a genre all its own. Called an
tittligent instrument," Music Mouse gives you instant musical feedback as you move the mouse and type on the keyboard, which controls tempo, vibrato, volume, etc. \$59.95. OpCode Systems, 444 Ramona St., Palo Alto, CA 94301. NCP (May 87)

Performer (v. 2.2) is the definitive MIDI sequencer, and is priced accordingly. Includes looping, SMPTE synching, 32 simultaneous Instant Outs, unlimited overdubbing and compatibility with Professional Composer for transcription. Requires MIDI interface and 512K+. \$395. Mark of the Unicom, 222 Third St., Cambridge, MA 02142. CP (Jan 88)

Practica Musica uses an interactive, game and practice approach to teach music theory and ear training. Excellent training tool for the serious music student, it is also fun for anyone who wants to develop a trained ear for intervals, chords and melodies. Requires 512K+. \$125. ARS Nova Software, P.O. Box 40629, Santa Barbara, CA 93140. NCP (Nov 87)

Professional Composer produces performance-quality sheet music using Adobe's Sonata font. Scores can be created from scratch or imported from Performer (and can be exported to Performer for MIDI playback). Requires 512K+. \$495. Mark of the Unicom, 222 Third St., Cambridge, MA 02142. CP (Jan 88)

Studio Session consists of two programs, an Editor and a Player, that \$\$\$\frac{1}{2}\$ produce music with six voices of digitized sound. Excellent program plus good manual make this a good buy. \$89.95. Impulse, 6870 Shingle Creek Pkwy., Minneapolis, MN 55430. CP (Dec 86)

HARDWARE & ACCESSORIES

AST TurboScan is a 300 dpi scanner with sophisticated graphics software. Scans at resolutions from 72 to 300 dpi. SuperScan software offers halftone, line art and mixed modes. "Virtual memory processing" lets you scan images too large to fit in RAM. \$1899.

AST Research, 2121 Alton Ave., Irvine, CA 92714. Requires 512K+. SuperScan software included. NCP (Nov 87)

CMS S-140 SCSI Hard Disk is a very fast, high-capacity SCSI hard disk ttt with a unity interleave and average access time of 18 msec. Holds 140 M. Help, file transfer and tape backup commands built in. Hard Disk Partition is a useful DA that comes with a 6 ft. SCSI cable. \$2995. CMS Enhancements, 1372 Valencia Ave., Tustin, CA 92680. (Jul 87)

DASCH is an external RAMdisk available in half, 1 and 2M sizes. Connects to a serial port. Speeds up operations 200 to 300%. Can be used as a printer buffer. Works with all Macs. 512K, \$395; 1M, \$450; 2M, \$545. Western Automation Laboratories, PO Box 3438, Boulder, CO 80307. (Feb 87)

Data Frame 40XP is a very fast, very quiet 40-meg external SCSI hard drive. Comes with a good and complete set of utility software. About as fast as a SCSI drive can be. Requires SCSI port, 512K+, new ROM. \$1899. SuperMac Technology, 295 N. Bernardo Ave., Mountain View, CA 94043.

DaynaFile hooks up to a SCSI drive to read MS-DOS disks in the Mac environment. Use Mac applications to manipulate data created with an IBM PC. Comes in both 5-¼ and 3-½ inch formats. \$595 for single floppy. Dayna Communications, 50 S. Main St., 5th Floor, Salt Lake City, UT 84144. (Jan 88)

FX-20 is a good 20-meg external hard drive. Good utility software.

\$\$\$\$\$ Reliable and reasonably quiet. Sits next to Mac, has a large, oddly shaped case. Requires SCSI port, 512K+, new ROM. \$1199. General Computer, 215 First St., Cambridge, MA 02142. (Feb 87)

Hard Disk 20SC is Apple's 20-meg SCSI hard disk. Reliable, fairly noisy unit. Good utility software, but no backup yet. Requires cable and terminator (\$80). Requires SCSI port, 512K+, new ROM. \$1299. Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014. (Feb 87)

Hewlett-Packard ColorPro Graphics Plotter is an eight-pen desktop plotter that requires third party software to drive it. Fonts are limited to an optional Graphics Enhancement Cartridge that requires some BASIC programming. \$1295. Hewlett-Packard, 16399 W. Bernardo Dr., San Diego, CA 92127. (Feb 88)

ImageMaker shoots 35mm color slides direct from the Mac. Supports
most presentation software. Uses patterns to represent colors.
Not fully compatible with the Mac II. Requires 512K+. \$4995.
MacDriver software, \$149. Presentation Technologies, 743
North Pastoria Ave., Sunnyvale, CA 94086. (Feb 88)

IS/ONE tablet with Penworks software lets you use a corded or cordttt.

less pen or mouse and a high-res tablet for precise graphics input. Minor bugs with some applications and DAs. Keystroke macros can be launched from the tablet. Minimal documentation. Requires 1M+. \$595 to \$1145. Kurta, 4610 S. 35th St., Phoenix, AZ 85040. (Jan 88)

MacBottom 45 SCSI and Internal Modem has a modem that fits into \$\$\$\$\%\$4 the top half of the 45-megabyte SCSI hard drive case. Comes with HFS Backup and Eureka. Does not work with a Mac II. \$1795. Personal Computer Peripherals, 6204 Benjamin Rd., Tampa, FL 33634. (Oct 87)

MacBottom HD21 is a very low (about 2 inches high), external 20-meg

\$\$\$\$\$\$ hard drive. Fits under the Mac. Very quiet, very reliable. Good
utility software, including HFS Backup. Requires SCSI port,
512K+, new ROM. \$1195. PCPC, 6204 Benjamin Rd., Tampa,
FL33614. (Feb 87)

MacCharlle's components slip around the Mac and convert it into an IBM PC clone. Amazingly, it works well. The enlarged keyboard has a few bugs but is a joy to use. \$995. Dayna Communications, 50 S. Main St., Salt Lake City, UT 84144. (Dec 85)

MacIntizer is a graphics tablet and absolute positioning device that replaces the mouse. Various scales are possible. \$599. GTCO Corp., 7125 Riverwood Dr., Columbia, MD 21046.

MacNifty Sound Digitizer turns ordinary analog sound input into digital \$\$\$\\\\$\\$\ waveforms which can then be manipulated using the SoundCap software it comes with. Capable of truly stunning effects. Requires 1M+. \$129.95. Impulse, 6870 Shingle Creek Pkwy., Minneapolis, MN 55430.

MacSnap Plus 2 is a 2M memory upgrade for the Mac Plus. The board has 256 kilobit chips. User installable. Not compatible with existing big screens or internal hard disks, and can't be expanded further. \$399. Dove Computer, 1200 North 23rd St., Wilmington, NC 28405. (Jun 87)

MacTablet is a stylus-driven graphics tablet. Users can easily sketch or trace art using this absolute-positioning device. Has a working area the size of the Mac screen. Allows concurrent use of the mouse. \$495. Summagraphics Corp., 777 State St. Extension, Fairfield, CT 06430. (Jan 86)

MacTilt/MacTilt SE is a Mac (and external drive) holder that allows a full tasks are full transported of swiveling and tilting. Very strong, this well made unit is also very easy to use. \$99.95. Ergotron, PO Box 17013, Minneapolis, MN 55418.

MacVision is a digitizer that uses an ordinary video camera for input.

Capable of extremely fine results and special effects. Easy to use and well documented. \$349.95. Koala, 269 Mt. Hermon Rd., Scotts Valley, CA 95066.

Magic Digitizer is a hardware digitizer that works with video camteras. With LaserMagic software you can generate 300 dpi images (in PostScript). Requires 512K+. Digitizer with Magic software, \$399.95; LaserMagic software, \$49.95. New Image Technology, 10300 Greenbelt Rd., Seabrook, MD 20706. NCP (May 87)

Microtek MSF-300C is a 300-dpi flatbed scanner. Really fast when used with optional MS-SCSI/C adapter. Comes with VersaScan Plus software (NCP) to scan and manipulate image. Saves images in a number of formats including TIFF and MacPaint.

\$1895. Microtek Lab, 16901 S. Western Ave., Gardena, CA 90247. (Dec 87)

Migent Pocket Modem is a 300/1200 baud portable modem about the size of a 3 X 5 index card. Comes bundled with MacTerm 2.0, Borland's telecom DA. Manual is confusing, and tech support is minimal. \$259. Migent, 865 Tahoe Blvd., Incline Village, NV 89450-6062. (Nov 87)

Mouse Mover is a mouse pad-type surface that snaps onto the bottom \$\$\$\\$\%\$ of the mouse like a roller skate, freeing it up to glide over desk or mouse pad with ease. 99 tiny ball bearings at three strategic points. Mouse glides faster and saves on mouse wear and tear. \$19.95. Magnum Software, 21115 Devonshire St., Chatsworth, CA 91311.

Moustrak is a fabric covered foam mousing pad. It will increase the
efficiency of your mouse while helping to keep it clean. Pad
comes in a variety of colors. Particularly useful in the typical office
desktop environment. \$10. Moustrak, 3047 St. Helena Hwy.,
St. Helena, CA 94574.

NetModem is a 1200-baud modem that can be accessed by all users on an AppleTalk network. The modem's display lights and the dial tone are simulated on-screen. Requires 512K+. \$599. Shiva, Suite 1200, 222 Third St., Cambridge, MA 02142-9919 (Feb 88)

NoLabelSystem is a plastic permanent labeling system in which users slide new tabs into a transparent plastic case on the disk. The tabs stick out of the case slightly, making them easier to read while in the drive. \$19.45. Weber & Sons, 3468 Hwy 9, Free-hold, NJ 07728.

One Plus One is a user-installable memory upgrade for a Mac Plus. Adds 1 megabyte of RAM to the 1M already there. Simple one-evening project. Includes MacBreeze, an excellent small fan. Re-

quires Mac Plus. \$375. Levco, 6160 Lusk Blvd., San Diego, CA 92121. (Aug 87)

Personal Writer PW15 S is a tablet-based handwriting recognition system that also allows graphics and macros. Number of misread characters is too high for general word processing. Requires 1M+.\$895. Personal Writer, 1801 Ave. of the Stars, Los Angeles, CA 90067. Software NCP (Mar 88)

PhoneNET is an AppleTalk-compatible network. Network can be up to \$3000-ft in length. In-place, unused phone cabling can be used for network, and can be combined with AppleTalk on same network. \$49 per node. Farallon Computing, 2150 Kittredge St., Berkeley, CA 94704. (Dec 86)

ThunderScan replaces the ribbon cartridge in an ImageWriter, which is required to use it. Laser scans art that can be run through the ImageWriter, producing high-quality digitized images. The images can be manipulated as they are created or afterward. \$249. Thunderware, 21 Orinda Way, Orinda, CA 94563.

TimeWand is a bar-code reader with a built-in time/date stamping clock.

\$\$\$\$
Can be used with *TimeWand Mangaer* software, a data base that's extensive though difficult to use. Poor docs, but good support. Requires 1M+. *TimeWand* 2K version, \$198;

**TimeWand Manager*, \$489. Videx, 1105 NE Circle Blvd., Corvallis, OR 97330-4285. (Dec 87)

New Turbo Trackball from Asher!



The Turbo Trackball is a versatile, reliable, easy to use and very accurate device for sophisticated desktop publishing, graphics, CADCAM, and many other applications. (For example, this entire ad, including the illustration was desktop published using the Asher Turbo Trackball).

Only the Asher Trackball gives you precise fingertip control in a space saving, low profile, ergonomic package designed with a patented hi-tech encoder used in sophisticated aerospace instrumentation; like aircraft, missiles, torpedos, gyros and space shuttles.

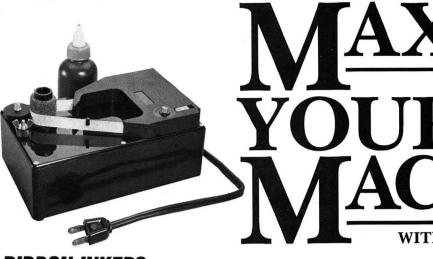
Also Available for IBM PC,XT,AT computers.

	ASHER Turbo Trackball	ABATON ProPoint	KENSINGTON Turbo Mouse
Technology	Patented encoder	Opto-Mech	Opto-Mech
Manufacturer	Asher Eng.	3rd Party	3rd Party
Digital Accuracy	Yes	Yes	Yes
Precision	250 CPI	200 CPI	< 200 CPI
Dual ADB Ports	Yes	Yes	Yes
Shift Lock Key	Yes	Yes	No
MTBF*	25 years	21.7 years	7.5 years
MTTR**	10 days	?	?
Left or Right Hand Option	Yes	No	No
30 Day Money Back Guarantee	Yes	No	No
Warranty	Lifetime	Lifetime	90 Day
PRICE	\$99.00	\$159.95	\$129.00

*MTBF-Mean time between failure **MTTR-Mean time to repair

To find out more, see your authorized Apple dealer or call **800-824-3522** (outside CA) or **818-960-4839** (in CA).

ASHER ENGINEERING 15115 Ramona Blvd., Baldwin Park, CA 91706





Pay Only \$49 For A Lifetime Ribbon Supply!

Don't throw away used ribbons when you only use up the ink. Bede Tech inkers re-ink ribbons over and over for just pennies each time! Print quality surpasses new ribbons – and gets better with each re-inking.

FREE 4-oz. bottle of black ink lasts 50-100 re-inkings. FREE Ink Roller & Roller Cover

Inker Kit for ImageWriter Printers \$49.00

Inker Kit for Counterclockwise Feeding Printers including Epson \$52.95

INK AND RIBBONS

Black Ink, 4 oz. bottle
Black Ink, Pint
ImageWriter Ribbons, Uninked
ImageWriter Ribbons, Inked
Colored Ink, Multi-Color Ribbons Call



DISK ORGANIZERS

Specify White or New Wood-Grain.

Save time and space when you store up to 50 or 100 disks in our stacking Disk Organizers. Sturdy 200 lb. test E-flute cdb., dividers, lid.

3.5" DISK ORGANIZER	\$7.45
Holds 100 disks	4/\$24.95
F" DECK TOD DICK	

3.5" DESK TOP DISK DRGANIZER \$4.45 Holds 50 disks 4/\$14.95

51/4" FLOPPY DISK ORGANIZER \$5.45 Holds 100 disks 4/\$19.95

COMPACT DISK ORGANIZER \$3.95 Holds 50 C.D.s 4/\$13.95



bede tech

800-772-4536

IN OHIO 216-631-4214

MOUSE PAD

Royal blue anti-static surface 93/8" x 77/8". Call for additional colors.

BEDE TECH DIRECT \$5.95

Please circle 237 on reader service card.

• 24 Hour Ship	ment	1	mu 3
• We Don't Bill • 30 Day Mone • Free Catalog	l Until ey-Back	Guara	
Prices subject to cha		ut notice.	TOTAL
		_\$	_\$
Canada, Hawaii, Alaska 7% Sales Tax (Ohio Resid	S&H \$4.50	
☐ Check ☐ Mone ☐ MasterCard ☐			
Card No Signature NAME			
COMPANY			
STREET			
STATE		7IP	



DAY PHONE (

ImageWriter is a trademark of Apple Computers, Inc. ©1988 Bede Tech.



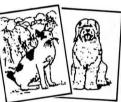
Bothered by noisy printers? Now you can dramatically reduce that irritating sound by up to 90%!

Constructed for light and medium duty use with an attractive wood grain finish that will blend with most home and office decors.

Full width top opening allows easy access to printer and paper-handling. Viewing window. Slot for continuous forms.

Fits most popular 80 column printers with maximum dimensions of 17.5" x 13.5" x 5".

BEDE TECH DIRECT \$29.95





MAC CLIP ART

VOL I Dinosaurs, Dogs, Cats, Horses

VOL II Dinosaurs, Dogs, Cats, Horses

VOL III More Dinosaurs, Small Animals, Oceanic Fish, Birds of America

VOL IV Tropical Fish, Tropical Birds, Tropical Plants, Wild Flowers

BEDE TECH DIRECT \$12⁹⁵ each
BEDE TECH BONUS • FOURPAK VOL. 1-IV \$39⁹⁵



BUSINESS CLIP ART VOL. I \$1495 EASTER CLIP ART VOL. I \$1495

HARD-TO-FIND MAC BATTERY

Inside the Mac and Mac Plus is a 4.5 volt battery that lasts about two years. Replace it before it dies or leaks inside your Mac.

BEDE TECH DIRECT \$3.95

HARD KEYBOARD COVERS

MAC SE, MACII, APPLE IIGS platinum MAC and MAC PLUS beige \$9.95
MAC SE and MAC II extended covers \$12.95

QUALITY SOFTWARE AT MODEST PRICES Public Domain and Shareware Software We always ship in 24 hours. • 1-Day air, C.O.D. available HYPERCARD STACKS HC1 Business: 3 calculators, address filer, talking secretary HC2 Personal Productivity: Chckbk, software & LP organizer HC3 Modem: BBS lists, terminal progs, MAUG & GEnie file lists HC4 Sound/Speech: 10 Common Sounds, synthesizer \$9 We're the Only Ones! With an indexed, 150 page book of complete disk descriptions. HyperMacintalk, sound utilities ☐ HC5 Fun: Adlibs, animation, Star Trek, HyperGunshy, Tic Tac Toe Best of Public Domain Science □ 154 Eartholot—draw detailed 3D globes . \$9 □ 86 Communications, utilities, games, DA's and more \$9 Sounds MacUser/MacWorld Editors' Choices □177 MIDIMouse, Kurzweil MIDIScope . \$9 □106,119 ScreenWreckers/Savers,pranks . \$18 □ 125 FKey Mngr, Keystrings, select FKeys \$9 □ 132 Saviour, Mac's Hdrm, 27DA's, fonts \$9 Utilities ☐ 6,89 ResEdit: edit fonts & icons. BOOK: 150 pg. directory of disks. \$7.95 | 1 Yr. Membership: book, quarterly **Business** ☐ 76 PageMaker 1.0—40 templates ☐ 135 Best of Business, Horne Finance ☐ 163 Dbases:mail, inventory, real estate magazines, plus many discounts... \$20 Library: Complete set—195 disks ... \$975 ١ SPECIAL OFFER! CAD/CAM 159 CADICAM, Advanced Animation . . . 1 Any 5 Disks Communication 29 Red Ryder 9.4 term prog w/doc ١ + Book + Magazines Desk Accessories ☐ 102 Best DA's—utils, modern, Transfer ☐ 168 Use Fonts, Fkeys, DA's w/o install ONLY \$39.95 (+\$4 S/H) **Fonts** _by □ Check □ VISA □ MC 90 Boston II-laser gity on Imagewriter ☐ 133 Beverly Hills-Sharpest, Imagewriter Card No. Games ☐ 103 Best Games—Billiards, Megaroids . ☐ 126 Star Trek with sound & graphics ... \$9 ☐ 134 "Wheel of Fortune": digitized sounds. \$9 ☐ 182 Ten pinball games w/pinball player ... \$9 Name Graphics ☐ 116,117 Clipart, Slideshow, Viewpaint ... \$18 ☐ 178 Movies:Vampires of NY, Marbles,etc. \$9

Please circle 5 on reader service card.

Nudes

49,66 Girls! Adults only pictures ... \$18

□195 Simple Tools: C language libraries . \$9

Programming
☐ 166 Complete Sesame C compiler

Zip

800-331-8125

For free magazine circle reader service number

Santa Clara, CA 95050 In CA 408-496-0624

THE PUBLIC DOMAIN EXCHANGE

2074C Walsh Ave., Dept. 917



Please circle 226 on reader service card.



Please circle 120 on reader service card.

onnection'

Delaware 1.800.451.1849

Oklahoma 1-800-654-4058

Nevada 1.800-621-622

MacUserville

HARDWARE	SOFTWARE continued	SOFTWARE continued	MISCELLANEOUS
ACCELERATOR BOARDS	BACKUP SYSTEMS	MANUFACTURING	ACCESSORIES 278
ADD-ON-BOARDS 270	BUSINESS	MEDICAL/DENTAL	BAR CODING
BAR CODE	BUSINESS PROJECT MANAGEMENT	MULTI-USER- SYSTEMS	BUSINESS OPPORTUNITIES
CABLES COMMUNICATIONS	BUSINESS TIME MANAGEMENT 272	MUSIC/MIDI 276	CAD CAM278
COMPUTER	COMMUNICATIONS 272	NETWORKING	CATALOGUES
SYSTEMS	COPY PROTECTION	ONE-OF-A-KIND	COMPUTER INSURANCE 278
DISKETTES 270	DATA BASE	OPERATION SYSTEMS	COMPUTER LEASING
DISK DRIVES270	DATA ENTRY	PAYROLL276	COMPUTER SERVICES
ENGINEERING	DATA MANAGEMENT	PREVENTATIVE MAINTENANCE	COMPUTER TRAINING
EXPANSION UNITS	DESKTOP PUBLISHING 272-273	PRINTER DRIVERS 276	CONSULTANTS
GENERAL 270-271	DEVELOPMENT	PUBLIC DOMAIN 276-277	CONVERSION SERVICE
INSURANCE 271	TOOLS273	REAL ESTATE 277	DATA CONVERSION278
LABELS	EDUCATIONAL 273-274	RELIGION	DESKTOP PUBLISHING
MACINTOSH II 271	EMULATION	RENTAL 277	SERVICE279
MEMORY	ENGINEERING 274	SALES	DIGITIZERS
UPGRADES271	ENTERTAINMENT/	MARKETING 277	DISK CONVERSION
MONITORS 271	GAMES	SCIENTIFIC 277	DISKETTE COPY SERVICE
NETWORKING 271	FINANCIAL 274	SECURITY 277	
PERIPHERALS272	FONTS 274-275	SERVICES	EMPLOYMENT OPPORTUNITIES
PLOTTERS 272	FORMS PROCESSING	SHAREWARE278	FURNITURE
POWER PROTECTION	GENERAL	STACKWARE278	INSURANCE
POWER SUPPLIES	GRAPHICS 275	STATISTICS278	LABELS279
PRINTERS	HEALTH	TAXES	MAILING LISTS 279
SECURITY 272	INVENTORY	TERMINAL	NETWORKING
SPEED DEVICES	LANGUAGE TOOLS275-276	EMULATION	NOVELTIES
SOFTWARE	LAW ENFORCEMENT	TYPESETTING 278 UTILITIES	PUBLICATIONS
The state of the s	LEASING 276		SCANNERS
ACCOUNTING272	LEGAL	WORD PROCESSING278	SUPPLIES 279
ARTIFICIAL INTELLIGENCE 272	MAIL ORDER	WRITING TOOLS	USED EQUIPMENT

Advertising Rates and Information: MacUser Marketplace

MacUser Marketplace is a special economical section for product and service listings.

Advertisements are grouped by category and sold by column inches. Second color option available.

Standard Directory Listings are also available for a minimum of 3 issues at \$270.00 per issue (\$810.00 total).

For additional information call 212-503-5115.

Production Manager Anne R. Brockinton

Production Coordinator Bessi Dion

MacUser Marketplace Classified Advertising Staff One Park Avenue, New York, NY 10016

Account Manager Angelo M. Turco, Jr.

Account Manager Lisa B. Stick

(212) 503-5115

Advertising Director Kathryn J. Cumberlander Sr. Advertising Coordinator Monica Dixon

Sales Manager Daniel L. Rosensweig Advertising Coordinator Linda Annis-Lopez

HARDWARE/ADD-ON-BOARDS

MACINTOSH

MEMURY UPGRADES
1 MB CMOS SIMMs\$224
SuperMac
1+1 MacPlus to 2MB Ram \$289
Prodigy SE1060
HARD DRIVES

Hammer300 MB 16ms 3995 MONITORS Sigma Designs Laserview 15',19" \$1345,1695 SOFTWARE Microsoft Word 3.01

FWB Software

800-356-2892

Supermac Pixel Paint

3637 Locust St., Philadelphia, PA 19104 MC/VISA, C.O.D., Cash or Cert. Check You will not be charged until shipped.

CIRCLE 241 ON READER SERVICE CARD

HURDLER

Add-on board for the Macintosh II and SE that interfaces to the I/O Channel (68K), PC Bus (8080) or the STD Bus. Developers with existing hardware or peripherals can quickly and easily connect to the new generation of Macintoshes. From the creators of MacForth. Call for info or technical data sheet. Price \$229 to \$499. CREATIVE SOLUTIONS

4701 Randolph Rd. #12 Rockville, MD 20852 1-800 Forth OK (367-8465)

BAR CODE

BAR CODE/MAG STRIPE READERS

Bar code and magnetic stripe (credit card) readers for the Apple Macintosh are available separately or in a single compact unit. All readers connect between the keyboard and the Macintosh, and require no additional software or port. A powerful but simple program for printing Code 39 bar codes is also available. TPS ELECTRONICS

4047 Transport Street Palo Alto CA 94303 (415)856-6833

> MacUser Marketplace . . .

To place your ad call (212) 503-5115

DISKETTES

TAKE THE BYTE

Media Source soothes the sting when purchasing your diskettes. All of our disks are fully certified. Each disk has an unrestricted lifetime warranty. There are no hidden costs. All diskettes come with labels, sleeves and write protect tabs.

Generic 5%"
Double sided, double density
Boxes of 100
Generic 5¼" High density, 96 TPL Boxes of 50 \$1.29 es
Sony 3½" Single sided,
Boxes of 50
Double sided,
Boxes of 50
Damas EV !!

n 5%" Double sided, double density,

media source

Boxes of 50

Order by phone 1-800-356-2553 or 404-952-2990. We accept MasterCard, VISA, American Express & Discover Cards. COD available. 24 hour shipping. Next day air available. \$4,00 per box shipping and benefities. and handling.

.99 ea.

CIRCLE 243 ON READER SERVICE CARD

COMPUTER SYSTEMS

... 349

Lisa/Mac XL Users

Now Available 800K disk drive and 20Mb HD for Lisa 2 or Mac XL/RAM Upgrades/HFS Full Technical & Networking Support Available!

Call our Toll Free Hotline for Latest Product Info. Dafax Hotline • 800•782•7823

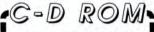
Orders & Info 800-323-1751 In Penn. Call 215•574•0357 Dafax•14 North Dr., Malba NY 11357 €



MacUser Marketplace

Listings are grouped by category and sold by column inches.

DISK DRIVES



NOW ... FOR THE MAC + C-D ROM TOSHIBA \$1095.

600 MEGS OF READ ONLY MEMORY STORAGE IN NEW CD ROM TITLES CLIP ART SERVICES

LAW + SCIENCE + MEDICAL SUBSCRIPTIONS FINANCIAL - STOCK - ON LINE DATA BASE BUSINESS / HOME REFERANCE LIBRARIES

NEW 800MEG W. D. H. M. DRIVE 5995

Mile C D Little

INFO: 503 667-9340 COMPU TOTOT TO LOCAL AREA: SALES REPS WANTED CIRCLE 294 ON READER SERVICE CARD

GENERAL category continued on next page

SONY-\$1.09ea. 31/2 DSDD QUAN-400

Includes labels and 2 for 1 replacement guarantee!

- Shipping \$3.00/100 disks
- COD + \$1.90
- Pa Residents add 6%

ZEBRA DISKS

PO Box L 200 Philadelphia, PA 19047 "WE WON'T BE UNDERSOLD!" 215-673-9705

J.N.B. COMPUTER SUPPLIES

BOXED IN T	10+	100 +	
MAXELL	31/2 SS/DD	\$1.08	\$1.0
	31/2 DS/DD	\$1.58	\$1.5
OR	31/2 DS/HD	\$4.99	\$4.8
	51/4 DS/DD	\$0.99	\$0.8
SONY	51/4 DS/HD	\$1.95	\$1.8
GENERIC	51/4 BULK WIT	H FREE I	LABELS
	TYVEK ENVEL	OPES 20)/PACK
20	100 + /\$.35		

WE CARRY COMPLETE LINE OF COMPUTER SUPPLIES. OPEN 7 DAYS A WEEK. J. N. B. COMPUTER SUPPLIES 2103 Commodore Drive San Jose, CA 95133

(408)365-0179

GENERAL

FUJITSU/SONY 31/2" DS/DD 11.08ea.

DATASAFE 51/4 DS DD W/TYVEK .39¢

OUR FULL LINE OF SUPPLIES & PRODUCTS INCLUDE:

- Mousepads Covers
- Modems Head Cleaners
- Plastic & Teakwood Disk Boxes
- Hard Drives
- Public Domain Software

Comp-U-Save

(516) 997-6707

800-356-9997

YOUR MAC SOURCE

Dataframe—30, 60, XP from SuperMac Technology. We are your source for all the most popular Macintosh products, including software, diskettes, peripherals, Mac cases, books, networking and consulting. Printing and typesetting available. Call us today! YOUR MAC SOURCE 5600 Roswell Rd. Prado N. Suite 264

Atlanta, GA 30342 (800)367-7552; (404)843-2267

MacUsefyrration

GENERAL

SHO' NUFF' APPLE STUFF

Genuine Apple products—Look! 800K drives, \$300. 1200 Baud Applemodem, \$190. Mac tole carrying case, \$45. MacWrite & MacPaint, \$45. Used 512K Macintosh, \$900. Used 400K drives, \$75. Also MacPhone, \$35. Overview \$50. Dollars & Sense, \$45. Kensington products! Motherboards & accessories! We buy, sell & horsetrade! Ask for Crazy Richard! C.O.D. & VisarMC. SHREVE SYSTEMS

INSURANCE

DATA SECURITY INSURANCE

845 Lark Avenue

Shreveport, LA 71105 (318)865-6743 4-9 P.M. C.S.T.

The "all risk" Personal Computer Policy from DSI includes essential coverages not available with other policies: protection against loss of data (even from accidental erasure), loss of custom programs, and fraud. As low as 35.00/year. Coverage can be bound by telephone 9-4 Mtn. time.

DATA SECURITY INSURANCE 4800 Riverbend Rd., PO Box 9003 Boulder, CO 80301 (800)822-0901; (303)442-0900

INSURES YOUR COMPUTER

Saleware provides full replacement of hardware, media and purchased software. As little as \$39 a year provides comprehensive coverage. With blanket coverage, no lists of equipment are needed. One phone call does it all! Call 8am to 10pm ET (Sat. 9 to 5). SAFEWARE, THE INSURANCE AGENCY INC. 2929 N. High Street, P.O. Box 02211 Columbus, OH 43202 (800)848-3469 (NAT) or (614)262-0559 (OH)

MEMORY UPGRADES

Upgrade to 2.5, 4, 5 or 8 megabytes with low-power, surface-mounted one meg SIMMs from Turbo Technologies, Inc.

Buy 4 SIMMS at our low everyday prices and get a Macintosh Opening Kit (Includes Torx Driver, Pryer Tool and Wrist Strap—a \$19.95 Value) for FREE!

Turbo Technologies, Inc. 78 Maple Street Roslyn Heights, NY 11577 1 (800) 542-7466 CIRCLE 246 ON READER SERVICE CARD

MacUser Marketplace

Second Color Option Available

For more information call (212) 503-5115

MEMORY UPGRADES

The Extender Memory Upgrade

For the Mac II, SE, & Plus -

• 2 or 4 megabyte Extender 1D™\$Call SIMM board with 1 meg CMOS DIP packages.

For the SE & Plus -

- 2 megabyte Extender 2Q™\$229
- 2 megabyte Plus 2[™] expansion\$399
- 4 megabyte Extender 2Q Plus 2[™].......\$599 For lowest cost we utilize the 256K DIP packages. These boards are easy to install and mount clear of other expansion cards and disk drives.

Our Quality Guarantee -

Since 1984 we have been manufacturing quality electronic products. Our upgrades carry a 30 day money back guarantee and a one year warranty.

In Georgia Call......1-404-967-2077 5556 Atlanta Hwy, Flowery Branch, GA30542

Order Now 1-800-962-2077

CIRCLE 247 ON READER SERVICE CARD

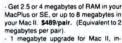
MACINTOSH II

Affordable Macintosh Upgrades



Please Call (612) 375-9238 210 Second Street North, Suite 301 Minneapolis, Minnesota 55401 Dealer Inquiry Welcomed

SIMM Modules



1 megabyte upgrade for Mac II, increases memory from 1 to 2 megs. \$229

Color Video Upgrade

Display 256 colors on your Mac II. \$99

Sonny Color Monitor

Apple uses Sonny, why not you? Includes swive stand and cable. Model CPD-1303. \$599

" Older Mac? Call for upgrade info "



Fast Performance Hard Drives -Fastest Available

You need high performance, high capacity storage for your Mac II or file-server needs. Cheetah Hard Drives deliver. With a 18ms speed rating they re the industry's fastiest. And their large capacity will satisfy the largest of storage needs. Choose from the internal Mac II configuration, or the external configuration for SE or Plus systems.

155 Megabyte Internal - \$1975 External - \$2175 300 Megabyte Internal - \$2875 External - \$3075

CIRCLE 245 ON READER SERVICE CARD

MONITORS

BIG MAC® 23" MONITOR

Displays sharp 23" hi-res black and white image from Mac, 512K, Plus, or SE. Includes composite video card, 25' cable, Mac-Tools, and instruction: \$1,595.00 complete system. Also premium 19" hi-res color monitor for Mac II uses standard Apple video card. \$2,995. Other monitor sizes and projectors available. Ideal for classrooms, boardrooms or shows. PDS VIDEO TECHNOLOGY, INC. 1152 Santa Barbara, CA 92107 (619)222-7900

MacUser Marketplace . . .

To place your ad call (212) 503-5115

NETWORKING

ETHERNET FOR THE MACINTOSH

Kinetics provides Ethernet hardware and software for all Macintosh computers. Products include:

• FastPath:An AppleTalk -Ethernet gateway.

- EtherSC: A SCSI-Ethernet controller.
- EtherPort SE: An internal Ethernet option card for the Macintosh SE.

All products are AppleTalk software compatible. Support for TCP/IP and other protocols is available.

KINETICS, Inc. 2500 Camino Diablo Suite 110 Walnut Creek, CA 94596 (415)947-0998

PhoneNET® SYSTEM

The PhoneNET System creates an AppleTalk network with the convenience, added distance, and flexibility of telephone wire. PhoneNET can use standard telephone cabling, even existing wiring. The System includes PhoneNet PLUS Connector, PhoneNET StarController with StarCommand and PhoneNet Manager, Traffic-Watch., and PhoneNet CheckNET. FARALLON COMPUTING 2150 Kittredge Street Berkeley. CA 94704

(415)849-2331

PERIPHERALS

Mac-cessory

Your Hardware Mail Order Alternative

EVEREX Hard Drives SCSI 1 Year Warranty

EMAC-20D Hard Drive 20 MB \$498

EMAC-40D 40MB H. D.\$958 EMAC-60T Tape BU. \$836 3.3 Meg/Min. Formats on the fly MD-2400 Modem

2400 Baud Complete w/Cable Mac SE Carrying Case \$83.95 MacPlus Carrying Case \$64.95

Mactilt & Mactilt SE \$64.95 Mouse Cleaner 360° \$13.45

216-543-1952

Valley Computers VISA 16744 W. Park Circle MC Chagrin Falls, OH 44022

CIRCLE 248 ON READER SERVICE CARD

PLOTTERS

Plot-It

New MultiFinder version supports background plotting for MacDraw, MacDraft, MacProject, MacPaint, etc. on Apple. HP, Houston Instruments plotters; A- E sizes. \$125

Mesa Graphics P.O. Box 600 Los Alamos, NM 87544 (505) 672-1998

CIRCLE 249 ON READER SERVICE CARD

SECURITY

Mac Lock/Mac Cables

Mac Lock, finest security kit for Mac/ +, Se, Mac II, secures Mac, keyboard, mouse, 2nd drive, modern, & printer. Attractive red vinylcovered steel 3/16" cables. Lock included, No tools req. \$-back guarantee. Also, all IBM, Apple II, \$40. Mac Cables provide any length custom cables for Mac/ + (incl. keyboard) or almost any computer need. \$20 & up. MAC PRODUCTS

20231 San Gabriel Valley Dr., Walnut, CA 91789. (714)595-4838

SOFTWARE/ACCOUNTING

Accounting Just Became Easier!

CheckMark MultiLedger

- General Ledger
 Accounts Receivable
 Accounts Payable
- Inventory Tracking
 Multiple Companies and Profit Centers

CheckMark Payroll

- Complete Payroll System
 Taxes for all 50 States

- Prints Checks, W-2's Employer Tax Reports Can be fully integrated

with MultiLedger MARK

SOFTWARE INC. 1520 E. Mulberry #230 / P.O. Box 860 Fort Collins, Colorado 80522 800-426-2466 ext 338 or 303-484-3541

CIRCLE 250 ON READER SERVICE CARD



- 4 modules that run w/Omnis 3 + "
- RECEIVABLES/ORDER ENTRY-

Back order control; prints invoices, delivery slips, aging anytime

- PAYABLES/PAYROLL-Checks, aging anytime
- INVENTORY-PO's
- · GENERAL LEDGER-Posting can be delayed until convenient

Modules \$195 locked, \$395 unlocked w/commented listing

Software Products Division 22612 South Avalon Blvd. Carson, CA 90745-4190 (213) 835-6077

ARTIFICIAL INTELLIGENCE

FamilyCare™ Software

This comprehensive medical diagnostic expert system spares expensive, unnecessary trips to a physician. It explores possible symptoms and gives specific directions for medical care, home treatment, and medications, Includes hundreds of symptoms, injuries, and diseases of newborns through teenagers.

FamilyCare™ Software Division of Lundin Laboratories, Inc. 29451 Greenfield Road, Suite #216 Southfield, MI 48076

1-(800)426-8426 or (313)559-4561

BUSINESS

4TH DIMENSION™ HYPERCARD **PROGRAMS**

 MacSolutions Invoices ™ is Point-of-Sale, Invoicing software for small business . Lenders Construction Services is software for construction lenders & contractors for job casting & analysis . Plant Encyclopedia" is StackWare for nurseries & landscape architects. DEMOS available. ALSO CMS & Data-Frame HD's from \$599 & \$749. V/MC. MacSolutions

241 12th St Del Mar. CA 92014 (619) 481-0479

BUSINESS

Excel Toolkits for Business Planning

Practical worksheets, charts, macros, and complete instructions

- Business Plan: \$69.95
- · Financial Forecasting and planning: \$49.95.
- Sales and Market Forecasting: \$49.95

Infoplan 155 Forest, Palo Alto, CA 94301

415) 325-3190

CIRCLE 251 ON READER SERVICE CARD

Small Business Accounting

No small business should be without ShuBox Filing™. Low cost powerful no frills accounting software! 30 day satisfaction warranty. All accounting areas plus many extra features. Inventory billing invoicing payroll payables receivables banking mail merge to name a few. \$59.95 HD with MAC + , SE or II.

A. H. NUSSEL SR. 1606 NW 21st St Gainesville, FI 32605 (904)372-0066

CHECKING ACCOUNT

- A template for Excel will:
- · Print your checks
- Post a set of accounts
- * Provide organized tax info for schedule A & C of 1040
- * Reconcile bank account
- * Recurring check provisions Specify 400K or 800K \$24.95 MICRO BUSINESS SERVICES

4826 Bellaire Blv. Bellaire, TX 77401

BUSINESS TIME MANAGEMENT

Revolutionary!! Timeminder™ 1.7

Automatic time tracking program and D/A. Time Minder features Time Billing, Project Billing, Auto warning of projects coming due, Employee Productivity reporting, Invoice Printing, Individual Client Ledgers, 2-page work notes, Manual Entry System, PauseTime D/A, Variable Project Search, much more ... \$139. Aatrix Software

P.O. Box 5359 Grand Forks, ND 58206-5359 (701)746-7202

COMMUNICATIONS

TextTerm+Graphics

New, MultiFinder version supports background file transfers, fast DEC VT100 and Tektronix (4014, 4105) terminal emulation. Reverse scrolling, editor, color, large screens & color, \$195

Mesa Graphics P.O. Box 600 Los Alamos, NM 87544 (505) 672-1998

CIRCLE 252 ON READER SERVICE CARD

Contact"

Burroughs emulation. Contact software emulates TD/MT/ET terminals. Sophisticated data capture-all screen data can be used by spreadsheet, database, word processor CANDE & XMODEM file transfer. Fully a la Mac interface. Soft keys, multiple pages & addresses, password protection ... Soon: full file transfer capabilities. Sperry terminal emulation. Avenue Software, Inc.

1173 W. Charest Blvd. Quebec, QC, Canada G1N 2C9 (418)682-3088

DESKTOP **PUBLISHING**

DESKTOP CATALOG™

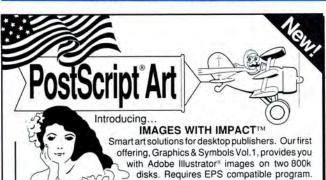
Profitmaking products for Desktop Designers in Publishing, Presentations and Graphic Design. You've paid for the system - now make it perform! We sell the products Desktop Designers need. For your free catalog, Call or write: Desktop Catalog

Customer Service P.O. Box 7336-A Boise, ID 83707 1 (800) 426-0306 (208) 384-5222

DESKTOP PUBLISHING

category continued on next page.

DESKTOP PUBLISHING



Special Price - \$89.00 (\$99.95 sug. retail); WA res. add\$7 sales tax. Add \$3 s/h. Check/ VISA/MC accepted. Call toll free or mail to: 3G Graphics, 11410 N.E. 124th St., #6155-B, Kirkland, WA 98034. 1-800-456-0234

Ask for our free brochure!

CIRCLE 253 ON READER SERVICE CARD

Classic PhotoArt

inally something different in clip-art! Created by professional photographer to help you product interesting and creative publications:

- A 5 disk set!
- Over 4,000k of images!
- Wildlife, landscapes, and much more! Literature to aid you in using PhotoArt in your publications!



7400 SW Barnes . Portland, OR 97225 (503) 242-0449

CIRCLE 254 ON READER SERVICE CARD

MACPALETTE

MacPalette by Microspot enables you to print multicolored pictures and text from existing Macintosh software using the ImageWriter II. MacPalette will colorprint existing documents from MacDraw, MacDraft, MiniCad, MacProject, MacWrite, JAZZ, Microsoft Chart, Word. etc. (not MacPaint). It prints black as true black instead of mixing a black. \$69. COMPSERVCO

800 Freedom Lane Slidell, LA 70458 (800)272-5533 OR (504)649-0484

Interactive PostScript

Silver Spring, MD 20910

(800)634-7638 or (301)589-6300

Program PostScript™ interactively over Apple-Talk using the PostHaste™ integrated programming environment. Full-featured editor, separate error message capture window, & fast up-loader with no file size limit. Great for the beginner, essential for the serious PostScript programmer! \$59.95 MICRO DYNAMICS, LTD., Dept.U 8555 Sixleenth Street, Suite 802

DEVELOPMENT TOOLS

PSORT UTILITY

Fast sorting utility for fixed and variable record sorting on any size file. Multi-key sort in ascending/descending order. Select number of records to sort. Skip header blocks if required. Modules for TML, UCSD, LS-Pascal for program development included. Stand alone program using PSORT includes sources. \$79.95 US or \$110.00 Canadian SAMNAI 5334 Young St. Ste. 2132 Toronto, Ontario M2N 6M2 (416)761-4848

EDUCATIONAL

ALGEBRA HOMEWORK TUTOR

Revolutionary HomeworkTutor™ lets you do your Algebra homework or classwork on a Mac. Checks each step you enter, gives hints, poses practice problems, solves and explains examples, and prints completed homework. Easy editing, Standard Mac Interface, and too much more to tell. Send for free brochure. MISSING LINK SOFTWARE Box 3280 South Amboy, NJ 08879 (201)721-2569

Educational Math Program

The Math Factory ™ teaches and tests addition. subtraction, multiplication, division, decimals and fractions skills with multiple difficulty levels. Keeps a complete record of each student's progress. Prints out report cards. Will print out work sheets (with answers sheets for teachers or parents). Special Intro price \$39.95. Demo disk \$5.00. Visa/Mc. Integrated Software 4265 Midland Rd. Saginaw, MI 48603 (517)799-1700

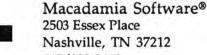
EDUCATIONAL

CONJUGATE! Spanish™

Helps students learn the essential, yet difficult part of Spanish...verb forms.

- · Gives immediate feedback on errors, provides help, and displays answer
- Customize and save drills, print drill performance, and switch screen text from English to Spanish
- Creates new drill automatically which focuses on the student's weak areas
- Identifies more than 200,000 verb forms from a dictionary of over 1,400 regular and irregular verbs

The ultimate drill-creation tool for students and teachers: \$54.95. Demo: \$5.00. School site licenses available.



615/383-2413

CIRCLE 260 ON READER SERVICE CARD

Best Testing System!

LXR-TEST brings desktop publishing to test generation! Combining graphics, word processing, and database management; LXR-TEST enables you to produce tests easier and better than ever - we guarantee it! Everyone that frequently generates tests deserves the productivity LXR-TEST can bring. See why LXR-TEST has been claimed as the best educational testing tool on the market!"

 Logic eXtension Resources 9651-C Business Center Drive Rancho Cucamonga, CA 91730-4537 (714) 980-0046

CIRCLE 255 ON READER SERVICE CARD

COURSE BUILDER/VIDEO BUILDER

Create standalone courseware for teaching, training and testing with the click of the mouse. Built-ins include drawing, painting, animation, voice, music, grading, intelligent branching and text-numeric mouse inputting capabilities. Free brochure and \$10 demonstration disks available. Course Builder-\$395. TELEROBOTICS " INTERNATIONAL, INC 8410 Oak Ridge Highway Knoxville, TN 37931 (615)690-5600

FREE MAC EDUCATIONAL CATALOG

Featuring: MICROGRADE - grade keeping. Easy course set-up, large class size, 100 assignments, personalized grading. Prints statistics/various reports. MICROTEST II - create, update, generate and store exam materials. Easy question entry, large data-base, multiple test versions, separate answer keys, \$95 each, \$5 demos. AND MORE MAC TITLES! CHARIOT SOFTWARE GROUP 3659 India Street MU#2 San Diego, CA 92103 (800)CHARIOT (619)298-0202

MacANATOMY

A complete electronic atlas of human anatomy in MacPaint document form. The drawings may be modified and merged into MacWrite documents using the clipboard. Comprised of four volumes, available individually or as a collection

MacMedic Publications 5805 Westheimer Houston, TX 77057 (713)977-2655

EDUCATIONAL

category continued on next page.

EDUCATIONAL

Orbital Mech

A SpaceFlight Simulator

Maneuver, rendezvous, & dock in an alterable gravitational environment

"I love it! Fun, exciting, entertaining, very educational

J.G., Kissimmee, FL In a word: WOWIII"

"...a very high Gee-Whiz coefficient." Dale M. Greer, The Author W.M., New Haven, CT

512K Minimum, Not Copy Protected! \$34.95 U.S. plus \$3 s/h No. Am., \$8 overseas

Texas residents add \$2 sales tax

Send check or m.o. to: Studio Zero 6212 Samuell Blvd., Suite 153 Dallas, TX 75228

1-800-752-9222 ext. 933

CIRCLE 261 ON READER SERVICE CARD

ENGINEERING

Digital Logic Schematic/Simulation LogicWorks "

- LOGICWOFRS

 Standard Features:

 simulates a "live" circuit on screen.

 user-defined device symbols and logic.

 creates and simulates PROM's and PLAs.

 netlist and component list output.

 includes libraries of 7400 and LSI devices and analog symbols

 199.95 U.S.

Programmable Logic Development LPLC

New From Capilano Computing LPLC" allows a hardware designer to express a circuit in a high-level language, then automatically produces optimal code to burn a PAL" or other programmable logic device. LPLC Features:

 Pascal-like language allows binary and integer expressions, state-transitions and truth tables. 5299.95 U.S.



LogicWorks is distributed by Bonsu MacIntosh is a trademark licensed to Apple Computer, MacDraw is a trademark of Apple Computer, Inc. PAL is a trademark of Monolithic Memories; Inc. LogicWorks and LPLC are trademarks of Capitano Computing Systems Ltd.

CIRCLE 262 ON READER SERVICE CARD

CIVIL & STRUCTURAL

Fully interactive analysis programs for 2-D frames, trusses, beams: FRAME MAC, BEAM MAC, BEAM MAC II. Structure, moment, defl. diagrams, text, more. \$145-595. Demo available. NEW: MacCOGO for geom. & structural properties of shapes: \$145. COGO MAC available 1/88 (traditional COGO). Money-back quarantee

Compuneering, Inc. (formerly Erez Anzel SW) 113 McCabe Crescent

Thornhill, Ontario Canada L4J 2S6 (416)738-4601

MGMSTATION-PRO CAD FOR MAC

by Micro CAD/CAM, Inc. is a high powered CAD program for the Mac similar to Autocad. MGMStation boasts over 140 powerful functions including: XY coordinate, polar or digital data input, 100 power zoom, accuracy to 4 decimals, tangent drawing tools and much more! \$799. Demo disk and/or VCR tape available. COMPSERVCO

800 Freedom Lane Slidell, LA 70458 (800)272-5533 or (504)649-0484

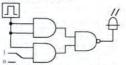
CircuitMaker™

Digital Logic Design, Simulation, and Schematic Generation

CircuitMaker is a powerful digital logic design and simulation program suited for the professional and hobbyist alike. Among its many features are:

- On screen simulation of your circuit
- 74LS device library, LEDs, switches, pulse generators, RAMs, and PROMs
- Microprocessor trainer module
- · Includes a tutorial with 8 experiments and solutions for the beginner
- Waveform display of any nodes
- · Simultaneously view the states of all nodes as the circuit runs
- CircuitMaker is extremely easy to use

\$99.95 VISA, MC, or COD



MicroCode Engineering

1943 N. 205 W. Suite Orem, Utah 84057

801-226-4470

CIRCLE 263 ON READER SERVICE CARD

MINICAD 3.0

MiniCad by Diehl Graphsoft boasts 1000 power zoom, internal symbol library, 40 layers, autodimensioning, double line tool, clip/add/intersect polygons tools, object snap, fillet & trim lines tools, object sizer and locator, 9 decimals accuracy, full 2D and 3D modes and more. MiniCard reads MacDraw, and MacDraft files. \$495. Demo available.

COMPSERVCO 800 Freedom Lane Slidell, LA 70458 (800)272-5533 or (504)649-0484

ENGINEERING

XASMTM

A family of 8-bit eross-macro-assemblers for the Macintosh'

COP-1802 family 6502/CO/CO2 6502/CS0/6301 families

15312/CO/CO/CO 15311/15318/05/301 Lamilies 15313/11C03/15/305 15315/11C03/15/305 1 •X68HC11 •X8048 •X8051 18899.95 ca

ZS Limity ZSO/64180 Limity ·XZS0 pluss Last. Egys to mee takes tull advantage of Macintosh uncetace. Sor these the output downdoor most EPROM programmers. Features ma-conditional assy, local and automatic labels, so-table cross-ref. Editor included.

Micro Dialects, Inc. | STeam USA | St. St. Can. AK. JH | Cincinnati. Off 45240 | Micro | Dialects | S15 Overseas | (513) 271-9100 | Dialects |

CIRCLE 265 ON READER SERVICE CARD

ENTERTAINMENT/

GAMES

Accurate, easy to use, GA calculates, displays

and prints chart and other data. Basic Version

\$39.50. Advanced Version \$129.50. Introduc-

ing the Gamma Version \$199.50. Faster, uses

more of MacToolbox, Multiple Windows, more

options and documents. Converts to MacPaint.

Supports Laser & Mac II. VISA/MC OK! Info on

GRAPHIC ASTROLOGY

TIME CYCLE RESEARCH

27 Dimmock Rd.

Waterford, CT 06385 (203) 444-6641

request

FINANCIAL



Do you need to find a better way?

MacMoney[™]

A personal and small business financial management program that's easy to use.

Survivor Software Ltd. 11222 La Cienega Blvd, Ste. 450 Inglewood, CA 90304 (213) 410-9527

CIRCLE 266 ON READER SERVICE CARD

FONTS

FLUENT LASER FONTS

Volume 1 through 15 are shipping. Add to your LaserWriter with high quality PostScript fonts, reasonably priced. Automatic downloading. print any size, support of Western European and Scandinavian languages. Write or call for samples. Order: (800)331-4321, In Calif: (800)851-1986

CASADYWARE INC. P.O.Box 223779 Carmel, CA 93922 (408)646-4660

FINANCIAL

for the serious investor. Fast, powerful technical analysis chartsell signals instantly. Acclaimed by brokers and private investors! \$495. MC/VISA. Free Info.

1-800-628-2828 xt 403 Button-down Software P.O. Box 19493 San Diego, CA 92119

CIRCLE 264 ON READER SERVICE CARD

ing program lets you see, buy and

MacUser Marketplace ...

Standard directory listings available for a minimum of 3 issues at \$270.00 per issue (\$810.00 total).

Call (212) 503-5115.

Complementary Type

High quality PostScript fonts... Here's a sampling... Fletcher Gothic Fletcher Gothic

VERIGO Cut Outs Hobnob Calculus Rouveau Kasse MICHELLE Peruta

Highland FATTI PATTI automatically downloadable... not copy protected... foreign languages supported ...many faces have alternate characters.

Call for our catalogue & ask about our custom font service:

Logos On-Line (717) 491-2492,



Software (717) 4 Complement 8 Penn. Ave, Matamoras,PA 18336

CIRCLE 268 ON READER SERVICE CARD

Beverly Hills 1.5

"Best ImagewriterTM font available!" Professional, "typeset" appearance

- Provides better quality photocopies 11 sizes: 6-12, 14, 18, 24 & 36 pt.
- 72 fractions from 1/2 through 9/9
- Horizontal lines of varying length
- 2-/1-pixel leading/space adjustment Additional mathematical symbols
- Two manuals provided on-disc Save cost of expensive printer, only \$15 (\$15.98 in CA) + blank disc!

ADH Software P.O. Box 67129

Los Angeles, CA 90067-0129

CIRCLE 267 ON READER SERVICE CARD

FONTS

DOWNLOADABLE LASERWRITER FONTS

FOR SCIENCE āĀ∇αβγΦΨ£∮∓!!



FOR FOREIGN LANGUAGE TEXTS Μῆνιν ἄειδε θεά, Πηληϊάδεω 'Αχιλήος ączćźlśń A ĘŻĆŹŁŚŃ

ALLOTYPE TYPOGRAPHICS 1600 PACKARD ROAD SUITE 5 ANN ARBOR, MICHIGAN 48104 (313) 663–1989 Compatible with all Macintosh systems

CIRCLE 269 ON READER SERVICE CARD

"FONTagenix" **
4 volumes of dot-rialtix display fonts

\$2995 ea. (all 4 at \$9950)

"FOREIGN FONTS EDITION"

22 Foreign Language fonts on disk \$4950

"LASERgenix"

Downloadable Laser fonts (Extended Cyrillic & Others) Customized Fonts & Logo's Available.

\$3250

ALL ORDERS ADD \$3 S&H, CA ADD 6% TAX
DEVONIAN
INTERNATIONAL

SOFTWARE COMPANY

(714) 621-0973 P.O. Box 2351 Montclair, CA91763

CIRCLE 270 ON READER SERVICE CARD

GRAPHICS



ENTITY-RELATIONSHIP DIAGRAM EDITOR

FEATURES

- HIERARCHICAL DIAGRAMS INFORMATION ZOOM
 - ATTRIBUTE TABLES
 - LAYOUT AND GRID OPERATIONS
 - DESIGN CHECKS DESIGN REPORTS
- \$150 plus shipping. 1st year of updates included. VISA, cheque, or Company Purchase Order

ANDYNE COMPUTING LIMITED 544 PRINCESS STREET SUITE 202 KINGSTON, ONT, CANADA K7L 1C7 (613) 548-4355

CIRCLE 271 ON READER SERVICE CARD

ADD COLOR TO YOUR MAC II

Colorizer—the complete color accessory kit for the Mac II! Add color for PICT documents. Customize screen colors with provided color coordinated decors, or create your own-the greatest thing since sliced bread', MACazine. Save color screen images to disk or print them in color. \$49.95 (\$3 S/H). Visa/MC. PALOMAR SOFTWARE, INC.

P.O. Box 2635 Vista, CA 92083 (619)727-3922

GRAPHICS

Very High **Quality Laser** or Lino Output PostScript & E.P.S. for Screen Viewing

 Click & Clip - Subscription Clip Art - Quarterly \$39.95 per issue or \$125, for a full year (4 issues)

 Click & Clip 500 - The Complete Library 500 illustrations - includes storage case and also a pictorial index of all illustrations. \$395. Order Today! Send Name, Address, and Phone No. to: Studio Adv. Art, P.O.Box 18432-52, Las Vegas, NV 89114 Order Hotline 1(800) 453-1860 Ext. 641

Technical Support or Questions 1(702) 641-7041 CIRCLE 273 ON READER SERVICE CARD

CompServCo™

Your CAD Source CompServCo supplies everything you need to automate your architectural or engineering office. 800 Freedom, Sildell, LA 70458 (800) 272-5533 (504) 649-0484

MacCADTM

The MacCAD Templates are 12 separately sold libraries of predraw symbols used by architects, electrical, piping, and mechanical engineers.

MiniCadTM

The new MiniCad (vsn. 3.0) is a powerful and easy to use 2-D and 3-D CAD program very popular with architects.

MGMStation™

MGMStation gives the user full coordinate CAD drafting capabilities. Separate CAM & IGES modules available.

MacPlotTM

With version 3.0, plotting is as easy as printing. Thick lines plot with multiple strokes of the pen. It also has many other new features.

CADMOVER™

CADMOVER transfers files of following format types back and forth between each other: IGES, MacDraw, MacDraft, PICT, MiniCad.

Simple Span, Back Span A desk accessory which easily calculates your most common structural problems.

CIRCLE 272 ON READER SERVICE CARD

DEVELOPMENT LIBRARIES

LANGUAGE TOOLS

* Programmer's EXTENDER Vol 1: Macintosh interface Vol 2 : lists, printing, I/O, graphics, tiling, popups EXTENDER GRAFPAK high quality graphs-bar, line, log; customizable

Invention Software 313-996-8108

symbols, grid patterns

CIRCLE 275 ON READER SERVICE CARD

SemperSoft* Modula-2

for the Macintosh Programmer's Workshop

- New 68000 native code compiler written expressly for the Macintosh
 •Standard Modula-2 libraries plus all of
- Inside Macintosh Volumes I thru V plus Multi-Finder support •Compatible with MPW Pascal
- Library source included
 MPW bundle available Semper Software

P.O. Box 225 Glen Ellyn, IL 60138 (312) 790-1253

CIRCLE 276 ON READER SERVICE CARD

B. Knick Drafting

313 Marlin Place

VersaCAD, with more than 40,000 systems in use worldwide, is now available on the Macintosh. Floating point precision guarantees 16 decimal place accuracy. Features include: DXF & IGES translators included, directly accesses the math coprocessor, sophisticated object attributes grouping, and 250 layers. CompServco

Melbourne Beach, FL 32951

CIRCLE 274 ON READER SERVICE CARD

MacPerspective™

Construct accurate perspectives from dimensioned drawings.

D. H. - Boulder, CO

(305) 727-807

For architects & draftsmen.

800 Freedom Slidell, LA 70458

(800) 272-5533 or (504) 649-0484

LANGUAGE TOOLS

category continued on next page.

MACUSER MARKETPLACE

Account Manager Angelo M. Turco Jr. Account Manager Lisa B. Stick

TO PLACE YOUR AD CALL

(212) 503-5115

LANGUAGE TOOLS



► NEW MANUAL: Explains the Mac Toolbox so you can understand how to use it quickly. & easily. ✓ LongInteger: ±2,147,483,647 (not limited to ±32,767)
✓ SELECT CASE nowincluded NEW BUILT-IN EDITOR: Memory-MacTUTOR CREATED bi-CLICK Applications VSCSI & Serial Port Access VimageWriter™ & LaserWriter™

✓ BUILT-IN DEBUGGERS: Memory Monitor DA and TRON DA let you watch memory & variables
MATH ACCURACY TO OVER 1.000 DIGITS of precision! NO ROYALTIES OR RUNTIME FEES Compare for Yourself:

BENCHMARKS SIEVE SORT ZBasic 4.0 compler 23 can't recommend Basic highly enough... Nell Shopiro, MacUser MSBASIC™ 1.0 compiler 10 649 MSBASIC 3.0 interpreter 662 3355 Sieve: Byte 1/83.10 iter Shell-Metzner sort: 2000, 100 character strings Sybex 'BASIC for Scientists and Engineers.' Times in seconds at a standard Macintosh Plus" ... the fastest BASIC available.

David Kelly, MacTUTOR

ZEDCOR DRDER TOLL FREE 800-482-4567

NEW MANUAL: Explains the Mac

CIRCLE 277 ON READER SERVICE CARD

LEASING

16 Day Rental on Mac Software **Telecom Software Review** 1-800-MAC-TSR0

(1-800-622-8770)

All Fees Apply To Purchase

Bus.Sense-65.90, CalendarMaker-7.90, Canvas-23.90, CricketGraph-24.90, Coach-12.90 dBaseMac-64.90, DeskPaint-9.90, Fast Back-12.90, Fonts-9.90, Games-7.90/up GraphicWorks 1.1-15.90, Image Studio-59.90, In-House Acct.-19.90, Jam Session-7.90 MacProof-23.90, McMax-38.90, MGMS-149.90, MicroPlanner+ -65.90, MiniCad-74.90

Pixel Paint-61.90, Post Art-10.90, Pro3D-49.90, Quickeys-13.90 RSG4-61.90, ReadIt OCR-38.90, Sentinel-21.90, Suitcase-8.90 Video Works II-26.90, MS Works-35.90, MS Write-23.90

Plus Hundreds More In Stock

And Hardware Too!

CMS SCSI Drive & Tape Units

SD20 - \$579, SD43 - \$879, SD60 - \$959, SD80 - \$1325 TS60E Tape Back Up - \$799.00

MacScan LS 300 \$1257, 2400 Baud Modems \$199.00 Compare Terms, Price and Delivery — TSR Is The BEST! Our Second Year for the Business Mac

TSR - 8177 S. Harvard - Suite 336, Tulsa, OK. 74137 Visa & COD MasterCard In Ok. 918-496-1140

CIRCLE 278 ON READER SERVICE CARD

MacUser Marketplace ...

Standard directory listings available for a minimum of 3 issues at \$270.00 per issue (\$810.00 total).

Call (212) 503-5115.

MUSIC/MIDI



(318)226-1702 CIRCLE 279 ON READER SERVICE CAR

MUSIC SOFTWARE CATALOG!

Learn how you can compose, edit, play and print music using your Macintosh. Over 40 pages of detailed information on the leading music software products and MIDI interfaces including patch/waveform editors, librarians, digitizers, sequencers, transcribers and more for professional and home studio use. Send \$2

Digital Arts & Technologies Dept. MU1 P.O. Box 11 Milford, CT 06460 (203) 874-9080

MacUser Marketplace . . .

To place your ad call (212) 503-5115

PAYROLL

POWERFUL AATRIX PAYROLL!

Automatically calculates, accumulates and deducts FICA, Federal, State, Local taxes, & other deductions. Reports summarize withholding & pay. Printout can be customized to fit any paycheck form. Tax tables may be edited. Prints W2 forms. Paycheck spooler. Password protection. More! Fast paycheck setup. \$99. Aatrix Software P. O. Box 5359 Grand Forks, ND 58206-5359

(701)746-7202

TIME SAVER PAYROLL 4.0 NOW EVEN BETTER • FULL FEATURED Payroll System . salaried, hourly comm. & tip wages. 11 ded incl. Fed, St & Loc taxes • 401k ded . Tax tables easily edited by user. Reports incl. 941, FUTA/940, SUTA . Prints checks & W2 forms . Flexible easy to use! Required Microsoft Excel \$95 + \$3s/h. MC/VISA/chk Demo \$15 + \$3 S/H. WESTERN SOFTWARE ASSOCIATES 110 El Dorado Rd. Walnut Creek, CA 94595 (415) 932-3999

PRINTER DRIVERS

PRINTER CHOICE FOR MAC

MAC DAISY LINK", a new member of the GDT printer driver family, is a single printer driver that allows any daisywheel printer or properly interfaced typewriter to be used with any Macintosh computer. User configurable. (\$82.00) THE PRINT-LINK' continues as the printer specific family member that supports a variety of dot matrix printers (9 + 24 pin) and lnk Jet printers. Supported printers too numerous to list. (62.00) Both install using 'Chooser'. Mac to printer cable - 22 95

GDT Softworks, Inc. Point Roberts, WA 98281 To inquire (604) 291-9121 To order (800) 663-MACC (6222)

PUBLIC DOMAIN

BEST VALUE MAC SOFTWARE

Best value in Public Domain software with over +2500 programs & tons of Stackware. Disks are packed to the brim with the latest quality software releases. No minimum. Double sided disks available. Fast reliable service. Free membership, bulletins & beautifully detail illustrated catalog, \$1.50 required/\$2.50 foreign MCUS

P.O. Box 6963, Dept. 71 San Jose, CA 95150 (408)723-3388

MAC PD FOR THE REST OF US

Obtaining quality PD/SW software doesn't have to be expensive. At Budgetbytes, it never is! Choose from our huge library of software at a modest price of only \$3.50 per disk or 3/\$10! No minimum, no mbr. fees, no gimmicks; just great software at honest prices. Send \$1.00 for our 100 pg. catalog with 2,500 + programs!! BUDGETBYTES P.O. Box 2248 Dept. B

Topeka, KS 66601 (913)271-6022, ORDERS (800) 356-3551

MACKEY MOUSE CLUB

Hundreds of public domain and "shareware" programs available through the MacKey Mouse Club. \$5/disk ppd USA; no membership fees. Monthly newsletter, reviews public domain and commercial software and technical issues of interest to Mac users. \$14/yr. subscription. Send for free sample issue and disk catalog. MACKEY MOUSE CLUB P.O. Box 4561-A Lincoln, NE 68504 (402)466-0252

PUBLIC DOMAIN

continued on next page.

PUBLIC DOMAIN

The Mac Group

P.O. Box 85152 MB231 San Diego, CA 92138

LifeTime Membership (optional) Includes Sampler Disk,TMG Catalog, and 15% Discount on purchases. Only \$15.

BigTime Membership (optional) Includes Sampler, Catalog, Discounts plus 750K of new PD every month. A bargain at \$72 / year.

Roll-Your-Own PD Disks Pick & choose from thousands of PD titles only the ones you really want. Send \$5 for RYO Catalog.

Special Art Set Includes 12 disks of public domain MacPaint™ art for only \$50 + \$3 s/h.

Send \$1 for catalog

VISA / MasterCard Orders 800-621-5640-622-477

CIRCLE 280 ON READER SERVICE CARD



Almost Free Software!

Choose from over 500 disks filled with HyperCard" Stacks, business programs, educational software, games, desk accessories, fonts, desktop publishing programs, clip art, utilities, Mac II software, and much more! Prices as low as \$2.80 per disk!

EDUCOMP Computer Services 742 Genevieve, Suite "D" Solana Beach, CA 92075

For your FREE 180-page catalog, call: 800-843-9497, or 800-654-5181 in CA. Hypercard is a registered trademark of Apple Computer, inc.

CIRCLE 282 ON BEADER SERVICE CARD

MISCELLANEOUS category begins on next page

REAL ESTATE

Real Estate Solutions

- Track™ clients &real estate interests, contact history, appointments & expenses. And mail labels, autodialer, XTRAS™, \$395
- Lead™ manage buyer & seller leads, sales, and follow-up. Measure effectiveness of Ads client generation & sales activities. Reports, Graphs & XTRAS™. \$595
- For Sale™ maintain all properties in a town or area including property descriptions, owners, occupants, contact history, assessments & sold \$ info. Mail labels & XTRAS™, \$695
- ListTM property listing system for all types of property. Include digitized pictures. Extensive reports, graphs, searching & sorting. User-customizable. **Iulti-User. \$795
- The Financial AnalyzerTM Reports for buy-ers & sellers, buyer qualification, home own-ership benefit, IRR, amortization, depreciation, loan tables, & more! \$295
- Prospect™ Customizable client manage ment system for any business. Contact hist mail labels, reports, and autodialer. \$395 Hypercard slideshows \$15 each, 3 for \$30. Call about new products planned for 1988.

PO Box 2285 Huntington, CT 06484 (203)926-1116



CIRCLE 281 ON READER SERVICE CARD

MacAppraiser

Simplicity at its best... Productivity at its highest.

Introductory Offer 3 Forms in 1 Package: URAR, Condo & Income \$395

- · Stand-alone Program · Very fast, includes Sketcher
- · Performs all calculations
- · Prints on ImageWriter & Daisy
- Runs on all Macs except 128K
- · Printing Demo Kit \$10.

BRADFORD AND ROBBINS 22656 Silver Oak Lane • Cupertino, CA 95014 Call (408) 996-2331

CIRCLE 283 ON READER SERVICE CARD

PROPERTY MANAGEMENT Residential & Commercial **Properties**

- Full Receivables/Payables
- General Journal/Ledger
- Budgeting Checkwriting
 Rental, Repairs & Tenant Mgt.
 Automatic Rent Increase & Late Fees

\$595



\$1295

714 687-1919 9487 Magnolia Avenue Riverside Ca. 92503

CIRCLE 284 ON READER SERVICE CARD

RENTAL

THE ORIGINAL MAC LIBRARY

Try before you buy . . . at low 16-day rental rates that apply towards purchase-though no obligation to buy. We offer an extensive selection of Macintosh software. All the popular and most wanted programs plus plenty of hard to find titles, too, NO FEES, FREE MEMBERSHIP Special discounts for rapid returns. With The Mac Library on your side you'll never make a costly software purchase mistake again. PLUS-FREE ASSISTANCE HOT LINE for customers. LOW, LOW RATES

The MacLibrary IN CA (800)426-2777 U.S.(800)622-4774

SALES MARKETING

Computer Assisted Telephone Interviewing package for survey and market research, political polling, and telemarketing. Automatic phone dialing, handles skip patterns, maintains call records/appointments, statistics, calling stations can be networked, 500 questions, 2 years in development. \$795 for package (2 stations). \$200 each additional station.

 PSRC SOFTWARE Bowling Green State University Bowling Green, Ohio 43403 (419)372-2497

CLIENT/Mac

An effective system for tracking the who, what, where, when & why of the work environment. CM manages follow-up & history notes, mailmerge, and time spent. It can be used by sales reps, consultants, real estate developers and other professionals to organize activities that lead to higher profits.

Software Complement 8 Pennsylvania Avenue Matamoras, PA 18336 (717) 491-2492, 2495

SECURITY

ADVANCED COPY PROTECTION

Free Demo Diskette

The world's leading software manufacturers depend on Softguard copy protection systems.

Now Softguard introduces the MACLoK Kit™a complete software duplication/copy protection system for Macintosh computers.

- · New hard disk support with install/uninstall
- No source code changes
- · Compatible with all Macintosh systems
- · Each protection system unique
- Stops all copybusters

Systems Incorporated

710 Lakeway Suite 200

Sunnyvale, CA 94086-4013 Call 408/773-9680

CIRCLE 286 ON READER SERVICE CARD

SCIENTIFIC

Equations Made Easy

See Review in this issue's MiniFinders in Word Processing

 $\frac{\sum\limits_{i} Y_{i} \in J^{(k)}}{\sum \in J^{(k)}} Expression is t^{ ext{TM}}$

a Desk Accessory Equation Editor that generates MacDraw™ quality Pictures for word processing and

· Matrices, loop & multi integrals, tensors, overstrikes, summations, more

Point-and-Click Editing · Keyboard Shortcuts

Desktop Publishing \$79.95

allan bonadio associates 1579 Dolores #26, SF, CA 94110 (415) 282-5864 CIRCLE 285 ON READER SERVICE CARD

MacUser Marketplace Second Color Option

Available

For more information call (212) 503-5115

MacUservariatipuriti

SHAREWARE

20 Megabytes of StackwareTM

A 25 (800k) disk set consisting of many business, home, educational, and games programs - also beginning and advanced HyperCard™ tutorials and our FREE 650 program catalog disk

All 25 disks for ONLY \$89,95 plus shipping & hendling iso available individually for only \$5,99 BUY THE SET AND SAVE \$59,80 VISA, MC, AMEX, or (C.O.D. +1.90)

800-992-1992 or 800-992-1993 Ca. 619-942-9998 (Foreign) INTERNATIONAL SOFTWARE LIBRARY 511-104 Encivities Blvd, Encivities Ca. 82024

CIRCLE 287 ON READER SERVICE CARD

Rent Software \$1/Diskfull!

Rent thousands of User Supported and Public Domain programs for \$1 per diskfull or use our inexpensive copy service. FutureSystems' disks are crammed full! DAs, Games, Business, Clip Art, Utilities, Graphics, and much more! Send \$5 for sampler disk or a #10 SASE for catalog (Specify Mac). Visa/MasterCard welcome! Money back guarantee!

FutureSystems, Dept U.
 P.O. Box 3040
 Vista, CA 92083

24hr Info/Order (619)941-3244 (recording)

STACKWARE

MacRecorder™

MacRecorder records real sound into your Macintosh. MacRecorder is simple to use. Just hold it in your hand and speak into the built-in microphone, or record directly from your IV or stereo. Your package includes: typerSound ** stereo. Your package includes: typerSound ** stereo. Your package includes: typerSound from within HyperCard. Sound editing software records sound, then lets you edit and save the file in a variety of formats including HyperCard, StudioSession **, VideoWorks **, and Beep | Natire*

FARALLON COMPUTING 2150 Kittredge Street Berkeley, CA 94704 (415)849-2331

HyperHouse

Looking for Hypercard stacks?

Need a way to market your Stacks?

Looking for the other developers in your area?

HyperHouse is your #1 Hypercard

software and shareware source.

Call or write for current list of stackware,
developers, and beta-sites.

HyperHouse
6521 Pardall Rd

Goleta, CA 93117

(805)968-4632

MacUser Marketplace

To place your ad call (212) 503-5115

STACKWARE

Typeface Book and Stack

Virtually every PostScript fcnt (all vendors), beautifully displayed and documented. For each type family, stack shows all styles, alphabets, and character sets. Book adds sample usages and more. Each tells history and mood, usage hints, tech data, and vendor/pricing infol

- The Typelaces of DT Publishing
- 800K Hyper Stack \$24.95
- DT Publishing Type & Graphics
 300 + page paperback \$29.95
- Book & Stack Combo -\$39.95

 Publishing Resources Inc.

 Boulder, CO

(303)442-1100, Orders (800)553-1666

BASEBALL STAT & STACKWARE

Complete Baseball Stats 86 & 87 seasons in HyperCard, Excel, FileMaker, OverVue, Reflex, etc. Powerful database files that sort, rank, etc. Over 25 categories. Great for Fantasy players & baseball fans. \$20/season or \$30/both. We also carry a large collection of utility, public domain, etc. stackware at \$7/full disk or \$40/8 disk.

SportsWare Co. 940 Hoxett St. Gilroy, CA 95020 (408) 842-0190

STATISTICS

RATS!!

Best-selling and most comprehensive econometrics & forecasting software available. Combines regression, time series and forecasting with data base management and high res graphics. All for only \$300. Call today and find out how RATS can help you!!

1-800-822-8038

VAR Econometrics P.O. Box 1818 Evanston, IL 60204 (312) 864-8772

CIRCLE 288 ON READER SERVICE CARD

TERMINAL EMULATION

MAC2624 TALKS TO THE HP3000!

With Mac2624, your Macintosh emulates the HP2624, HP2392, HP2394 block mode CRTs, running HP3000 software reliably and elegantly. Mac2624 implements all HP modes, parameters, keyboard features, and display characteristics within the ingenious Macintosh mouse menu, command-key environment. Intelligent, ultra-fast file transfer, text graphics conversion options.

TYMLABS CORPORATION 211 East 7th Street Austin, TX 78701 (512)478-0611

TYPESETTING

HIGH-RES. LASER OUTPUT

Riverside Type Services, known for its high quality typesetting, is pleased to announce a desktop publishing service bureau for the Jersey Shore area. We output MAC or IBM Disks on our L300 (Linotronic) At 1270 or 2540 DPI. Film or RC paper. Competitive prices, sameday service. (Call or write for free type chart). RIVERSIDE TYPE SERVICES

103 E. Front Street Red Bank, NJ 07701 (201) 758-1133 (201) 530-4594 MODEM

WORD PROCESSING

Mac Σqn/Equation Writer

Mac Σqn is a desk accessory equation processor that lets you include complicated mathematical equations in your technical documents. Mac Σqn supports integrals, sums, products, multiline expressions, roots, super- & subscripts on the same character. Automatic character sizing, etc. Price: \$44.95 with Educational discount available.

Software For Recognition Technologies 55 Academy Drive Rochester, New York 14623 (716)359-3024

MISCELLANEOUS

ACCESSORIES

DESKTOP

50% OFF on desktop accessories, direct from the manufacturer. AMBER FILTER, \$15.95 reduces eye fatigue for heavy Mac users, DELUXE PRINTER STAND \$29.95, heavy duty ½" acrylic one piece solid construction with paper guide, good for 80 or 132 column printers, also reduces printer noise, has \$60.00 list price. (Money back guarantee). Freight prepaid on \$50.00 or more, Visa/MC.

D. M. S. Box 785 Middleton, MA 01949 (800)634-5463 ext. 320 Orders Only (617)683-2325 Customer Service

Cordura Bag for Mac SE

Portland, OR 97209

(503)248-0053

 Organize Mac components for easy access, w/padded interior compartments. Tough Cordura® & resilient foam padding for protection. Ouality material & carefully crafted construction-guaranteed. Ask about our Imagewriter II case. Call your local dealer today! For the dealer nearest you, call us or write.
 Dealer inquiries invited.
 West Ridge Designs 305 N. W. 12th Ave.

CAD CAM

MacEntire 3D Image Design

MacEntire™ Catalog updated weekly. Includes in formative guide for all graphics hardware software for the macintosh. We rent, lease various input/output devices, specialize in sales and support of MGM Station™ CAD & CAD/CAM. Details: send self addressed stamped #10 envelope.

23011 Moulton Pkwy. Ste. C-1 Laguna Hills, CA 92653 or call (714) 951-9323

COMPUTER INSURANCE

COMPUTERS + INSURANCE = SAFEWARE

*Business Computers *Home Computers
*Overseas Computers *Leased Computers

*Computers Leased to Others *Computers taken to Shows *Computers Held for Sale *Others' Computers in Your Care Call for complete information!

SAFEWARE, The Insurance Agency Inc. 2929 N. High St., P.O. Box 02211

Columbus, OH 43202

(800) 848-3469 (NAT) or (614) 262-0559 (OH)

DATA CONVERSION

TAPE/DISK CONVERSIONS

Conversion services for your MacIntosh to over 1000 computer systems. Capabilities include converting to or from:

* Magtapes *Mini & Micro Computers

* Word Processors *Typesetters

Data can be supplied in over 180 software packages. OCR scanning also available.
Pivar Computing Services, Inc.
165 Arlington Heights Rd.
Butfalo Grove, IL 60089
(312)459-6010

MacUser Marketplace

is a special economical section for product and service listings.

MacUservariation

DESKTOP PUBLISHING SERVICES

YOUR RESOLUTION AS STRONG AS YOUR MESSAGE.

Let **REGIONAL TYPOGRAPHERS** give your desk-top published message the resolution it deserves:

3,500 DOTS PER INCH!

That's not only the best resolution possible, we'll give it to you within 24 hours—by disk or modem! Most popular "Mac" and IBM desk-top publishing programs!

Ask for our free brochure on all the typesetting services—and service—we can provide.

Write. Call or Fax today.



REGIONAL TYPOGRAPHERS, INC. 229 Bedford Ave., Bellmore, NY 11710 516 • 785 • 4422 Fax: 516 • 785 • 4173

CIRCLE 289 ON READER SERVICE CARD

LASER TYPESETTING

Professional quality file output service at competitive prices. Mac or IBM, via disk or modem to our LaserWriter or Linotype. Same day service. We can also keyboard your copy, from a letter-head to a full length novel. Also available complete darkroom services and platemaking for your printer.

HODGINS ENGRAVING Box 597, Batavia, NY 14020 1(800)354-6500 Nationwide 1(800)626-8900 in New York

TRUE TYPE

Get a Typeset quality look from your Mac or P.C. We print files from disk or via modern on our Linotronics/Laserwriters. Electronic bulletin board available 24 hrs a day -Free- for your convenience. 24 hr Turnaround, Professional staff, Typesetting & Design, Process Color Printing, Designers on call to train and assist you. Call today and find out about our bulk/contract rates. Featuring Direct to film negative or positive.

GRAPHIC-AID 865 Rear Islington St. Portsmouth, N.H. 03801 (603) 436-2500 Modern 603 436 0719

TYPESETTING-DESKTOP

High resolution output for Pagemaker/Ventura files via disk or modem. Over 500-typefaces on Linotype. LaserWriter output available. Fast service. Produce quality pages at affordable prices, pages low as \$3.00. Typesetting by using word processor files from Mac/IBM, or keyboarding your copy. Call for details. CREATIVE TYPOGRAPHY

514 South Pannin Tyler, Texas 75702 (800) 962-TYPE or (214) 595-2424

LABELS

NoLABELSYSTEM® FREE SAMPLE

No labels. No label problems. No sticky disks. It's a permanent, clear plastic (window) pocket you stick on to a disk. Slide in a labbed insert card: white and assorted colors included Write on card to identify and organize your disks. Call today for your NoLabelSystem®, NLS 3.5/100 \$22.45, delivered. Visa/MC.

WEBER & SONS, INC. (MU) P.O. Box 104 Adelphia, NJ 07710 (800)225-0044 (201)431-1128(NJ)

MacUser Marketplace . . .
To place your ad call (212) 503-5115

MAILING LISTS

MAILING LIST of Mac Users

On labels, tapes, or disks!



Over 145,000 names to choose from!
Only 5c per name for a one-time rental. No charge for selecting, sorting, key coding, media, or delivery. Choose any quantity. This extremely high-quality list is updated every day. Ask for our detailed state counts.
Semaphore Corporation, 207 Granada Drive, Aptos, CA 95003, (408) 688-9200.

CIRCLE 293 ON READER SERVICE CARD

SUPPLIES

P.C. Copier & Laser Printer Owners



Colors (Brown & Blue) \$20 more

TONER SERVICE COMPANY

(314) 776-1155 UPS to: 2930 Allen Ave., Suite B St. Louis, MO 63104

CIRCLE 290 ON READER SERVICE CARD

SUPPLIES

SSELL US YOUR EMPTY TONER CARTRIDGES SIO

16.50/cartridge - 83/used fixer cleaner - \$.50/bax+styro
 PRINTERS: HP series I&II, Apple, Canon QMS, NCR...
 - COPIERS: Canon PC models 10, 14, 20 and 25.

You say chapter for smarter Ship in price has & styre

SBUY OUR REFILLED CARTRIDGES

BLACK: \$40 (\$50 m/e) BLUE/BROWN: \$60 (\$70 m/e) We pay shipping. • Over 20% more toner than new. Quality Control sheet and felt cleaner included. first nationwide cartridge refiller... PCWEEN \$2/10/80 µ36

MCC

MICHLIN COMPUTER CONSULTANTS
LASER CARTRIDGE DIVISION
3770 Plase Drive Soile 1
Ann Arber, Michigan 48108-7354
VISA/MC/P.O. welcome
313-653-6000 TELEX 96-1520
800-63-TONER FAX: 3136639662

CIRCLE 292 ON READER SERVICE CARD

IMPRESSIVE, MORE PROFITS

Reports or resumes, our background stationery will increase document visibility and success with the allure of gold or silver. Quality papers preprinted with a gold or silver border surrounding a lightly tinted field. Overprint with any document for dramatic increases in impact and profit/sht. Send \$1 for samples.

Desktop Impressions

10.0 Rev 1325

P.O. Box 11325 Milwaukee, WI 53211 (414) 347-7552 WATS Available

CO.LOGO SPECIALIST

Grey, Green & Red * 9"x8"3/8"

* 12 pads \$9.50

* 72 pads \$7.90

* 144 pads \$6.70

* 500 pads \$6.30

ENTIRE pad imprintable
GUARANTEED to last
MULTI-COLOR jobs OK

GUARANTEED to last MULTI-COLOR jobs OK SAMPLES w/logo \$12.50 COMPUTER EXPRESSIONS 3833 Chestnut Street Philadelphia, PA 19104 (800)443-8278

LASEREDGE™ Paper/Film

Get high resolution from plain paper laser printers, and color plotters. LASEREDGE™ high resolution Paper/Films are waxable for paste-up. The bright white background, denser image, and finer edge of line will allow enhanced capability for 300 dpi to reproduce on camera. Call or write for samples today. VISA/MC accepted. C G GRAPHICS ARTS SUPPLY, INC.

C G GRAPHICS ARTS SUPPLY, INC 481 Washington Street New York, N.Y. 10013 (212)925-5332

Long Life Laser Cartridge Recharge

LASTS 30-50% LONGER!

FACTORY LIKE METHOD-NO HOLES CUT! For Apple, H.P. & 25 more using Canon EP Engines. 100% Money Back Guarantee in writing!

24 hr Turn-Around

SEND \$38.50 +\$3.00 SH Texas Toner Cartridge Co.
With Each Cartridge To: 9794 Forest Ln,#262, Dallas, Texas 75243
(214) 475-5006

CIRCLE 291 ON READER SERVICE CARD



By John C. Drorak

Garbage of the Rich(?)and Famous (?)

n past columns I've gone through my software pile, my letters pile and my memo pile. How about a new pile? Let's turn over the garbage can and see what I've discarded unopened, then open it and see what we have. OK?

Note: The sole purpose of an exercise such as this is to ridicule, humiliate and embarrass those firms who have accidentally been caught in Dvorak's garbage this time around. Anyone who follows my work knows that I don't do a calendar of events; I never write about promotions in a company or how a new warehouse was built. Furthermore, I'm not a daily newsman writing news and I don't have a new products column. So why do I get this stuff in the mail? Who knows?

On top is a press announcement from the Supra Corporation (Albany, Orcgon) addressed to The San Francisco Examiner with my home address. Great. I can't tell you how many phone calls I get at home asking for some newsman at the Ex because of things like this. The press announcement is for a \$1000, 10-megabyte floppy drive for use by the Atari, the Amiga and the Mac. It must be the Konica device I've seen before. There is no mention of how the technology works and the unit looks very hokey something from 1979 for use on a CP/M computer. Maybe I'll check it out, probably not. I'm sure from the looks of it the company will give me a review unit for 24 hours to "fully" evaluate.

Next in the can are a pile of flyers from Longs, Payless and a slug of stores. Who has time for these things?

Down in the pile is a large envelope from the Pacific Group. It looks to be machine addressed. I try to take one look at a mailer and determine if it was computer addressed. Many vendors of mailing lists on which I'm included have distinct mistakes they make and which I can easily spot. Those are automatic two-point can shots: slam dunk. I also feel for the telltale staple which indicates that an

envelope contains a useless press release. Another two points.

This envelope from the Pacific Group looks like one of those Xerox-type labels made by the millions. Surprise! Inside I was shocked to find a personal note saying that I didn't get all the material they wanted to send me so here's more. This is the PR firm that pushes Action Technologies Coordinator software — an expensive but interesting software package that helps businesses coordinate messages, activities and schedules of many employees. I first heard about this thing some time back and wanted to look at it. I lost interest when it turned out that it cost a mint, was designed for large systems and

trying to figure
out what this product
really does. All the
articles focus on the
developer and how he
was imprisoned in Chile
and how he is now a
free (and rich) American
who went to est training.

had already been promoted to death. This package gave me two more long articles highlighting the system. If I wrote about it now, I'd look like the last geek writer in a long line.

More disturbing is trying to figure out what this product really does. All the articles focus on the developer and how he was imprisoned in Chile and how he is now a free (and rich) American who went to est training and is worshiped by his employees. Werner Erhardt owns 20 percent of the company. What's all this got to do with anything — and who cares? So I reach down another layer and

come up with an obvious press release from Chang Labs. It's addressed to John Dvorak, editor of *DVORAK*. You can tell that this company is right on top of things. Inside I find a press release with the headline: Chang Labs Adds Marketing and Retail Muscle. Whoa, here's something that my readers are fretting over. The text indicates that a couple of

guys were added to the board of directors and some character was made Area Sales director. I'm impressed.

Next in line is a letter from CAM Communications. Hmmm, this is a real letter, actually a document that tells me that the Quadram 386 card that I got a few days earlier has to be returned in 60 days or I'll have to pay for it. This is amusing since I don't recall requesting this board. In fact, it was a surprise to me when it arrived. Perhaps some small talk at a trade show resulted in a misunderstanding. Someone should have called first before sending the card or at least before sending a terse ex post facto evaluation agreement that ended up in the garbage because it looked just like a press release. Now I'm really curious about what else is in this garbage can.

Here's another press release from the Supra Corporation. It looks and feels just like the first. It happens all the time: duplicate press announcements. But wait. It's an announcement for the Supramodem 2400. A smallish 2400-baud modem that will sell for \$179.95. Wow. I'll call them about this one.

Digging deeper I find a folder from Micro Engineering Solutions telling me all about a fascinating numerical control machining module (photographs included). Oh boy!

Here's a couple of lesser newsletters I don't read. Finally, a folder from On Technology announcing their existence and throwing in a picture of Mitch Kapor and a balding Peter Miller who is smirking for some unknown reason. One of the briefings contained in the folder claims the company is creating "Person Compatible Software." Yeah, right. Miller used to work for Kapor at Lotus Development where Miller developed Jazz. To me, this company sounds like a couple of old pals hanging out. An excuse to get out of the house and have a few drinks.

I could go on and on and on. You get the idea. I get about 500 pieces of mail a week and 450 pieces are of no value and in a process of elimination they are unceremoniously tossed out. I open apparent checks, bills, letters whose address is typed or obviously one of a kind and not on a mailing label. I open anything hand addressed. Some things fall through the cracks, but what else can I do? This is over a thousand pages of material a week that is useless. Surely I don't have time to read it all. Maybe an occasional look through this here garbage can will enlighten PR firms somewhat and get them to be more selective in their mailing. I'm not betting on it, though. A



When you got your Mac II, it was love at first sight. How did it ever come to this? It's taken over your entire desktop. Its noisy fan is driving you crazy. You don't want to give it up, but you just can't go on like this...

Kensington Convenience

> Don't do anything rash. Kensington has the solution. We can give you back your desk and your peace of mind, in three quick steps.

1. Our Macintosh II
Stand lets you stand your
Mac II beside your desk so
only your monitor and keyboard remain on the desktop.
It's made of sturdy aluminum
for worry-free stability. And it
leaves 2 inches of airspace
under your Mac for proper
ventilation. \$29.95

2. Our Macintosh II
Monitor Cable Extension
Kit contains a 6-foot power
extension cord and a 6-foot
video signal extension cable.
Just add them to your existing
Mac II monitor cables and
you'll be able to position your
monitor up to 8 feet from your
Mac II. \$49.95

3. Our **Extra Long ADB Keyboard Cable** is over 7 feet long, 4 feet longer than the Mac II keyboard cable.

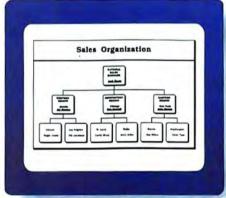
Just replace your existing cable with one of ours for complete flexibility, \$39.95

For more information, call (800) 535-4242. Outside the US, or in New York, call (212) 475-5200. Or write Kensington, 251 Park Ave. S., New York, NY 10010.











OUR INSTANT PRESENTATION.

If you're a busy manager who wants to look your best at a moment's notice, but don't have time to be an artist, there's only one choice. MORE. Because MORE is the only presentation software that turns ideas into presentations instantly. By doing all the art work for you using its

built-in "graphic artist."

MORE is both an award winning outline processor and an instant presentation maker. So, for example, you can outline a new product sales plan right now. Then, when you need to present your time table, just click the mouse and that part of your outline becomes a perfectly spaced bullet chart. Want to add impact with shadowing and double lines or different type sizes and fonts? Click again. Or pick another part of the outline, click, and there's your organization chart. You can even print the entire outline

and it's your sales meeting agenda. MORE is easy.

Effective. And instant.

MORE outlining helps you get results fast. MORE presentations show off those results even faster. Maybe that's why MORE was named MAC User's product of the year. And why it's the best seller. Get

more time to map out strategy and prepare for meetings. Get MORE. It's the fastest way to organize and build presentations. Beyond

a shadow of a doubt.

For MORE information call 800-822-3700, in California 800-443-4310.

